



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

March 1, 2006

RETURN RECEIPT REQUESTED

Mr. Stephen Halasz, Environmental Department Manager
Kleinfelder
3601 Manor Road
Austin, TX 78723

Re: Initial Notice of Disapproval for Major Deficiencies
Amended Draft Remedial Investigation and Feasibility Study Work Plan
Field Sampling Plan, and Quality Assurance Project Plan
EPA's Comments on Amended Draft Deliverables Dated May 5, 2005
Falcon Refinery Superfund Site; Ingleside; San Patricio County, Texas

Dear Mr. Halasz:

The purpose of this letter is to provide the U.S. Environmental Protection Agency's (EPA) Initial Notice of Disapproval for Major Deficiencies, of the "Amended Draft Remedial Investigation and Feasibility Study (RI/FS) Work Plan" (WP), "Amended Draft RI/FS Field Sampling Plan" (FSP), and "Amended Draft RI/FS Quality Assurance Project Plan" (QAPP); each dated May 5, 2005. These amended draft deliverables were submitted by National Oil Recovery Corporation (NORCO) pursuant to the "Administrative Order on Consent (AOC) for Remedial Investigation and Feasibility Study," effective June 9, 2004; for the Falcon Refinery Superfund Site, Ingleside, San Patricio County, Texas. Enclosure A (Initial Notice of Disapproval for Major Deficiencies, EPA's Comments on Amended Draft Deliverables Dated May 5, 2005) consists of the EPA's comments on the deliverables and are submitted pursuant to the AOC. The EPA's comments include the comments provided by the Texas Commission on Environmental Quality and the Federal and State Natural Resource Trustees.

As provided in Section IX., Paragraph 31 of the AOC, the EPA disapproves (in whole) the Amended Draft RI/FS WP, FSP, and QAPP (dated May 5, 2005) for major deficiencies. Specifically, NORCO failed to incorporate the EPA's modifications into the text of the amended draft deliverables exactly as directed by the EPA's written comments dated February 3, 2005, concerning NORCO's Draft WP, FSP, and QAPP; and the EPA's written comments dated March 23, 2005 (Addendum to the EPA's 2/03/05 Comments on NORCO's 9/07/04 Draft Deliverables [Attachment H - On Compact Disk]). NORCO also failed to consider the EPA's verbal comments provided to NORCO during the initial "scoping meeting" held on July 7, 2004.



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In accordance with Paragraph 33 of the AOC, upon "receipt of notice of disapproval . . . NORCO must correct the deficiencies and resubmit the submission for approval." NORCO is therefore required to correct the Amended Draft RI/FS WP, FSP, and QAPP and resubmit each deliverable after incorporating the EPA's comments exactly as directed in Enclosure A. Specifically, NORCO is directed to resubmit each deliverable after incorporating the EPA's modifications "exactly" as directed in the comments provided in Enclosure A, as well as the EPA's written comments dated February 3, 2005, concerning NORCO's Draft WP, FSP, and QAPP; and the EPA's written comments dated March 23, 2005 (Addendum to the EPA's 2/03/05 Comments on NORCO's 9/07/04 Draft Deliverables). NORCO should also consider EPA's verbal comments provided during the initial "scoping meeting" held on July 7, 2004. Further, Paragraph 34 states that if, on resubmission by NORCO, the EPA again disapproves the Amended Draft RI/FS WP, FSP, and QAPP, stipulated penalties will begin to accrue as of the date of the EPA's notice of disapproval.

In order to facilitate resubmission of the draft deliverables, the EPA strongly recommends that NORCO representatives participate in another scoping meeting with the EPA and the Federal and State Natural Resource Trustees before NORCO begins the process of revising the disapproved deliverables. This scoping meeting will include a comprehensive discussion of the Data Quality Objectives Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP. The EPA realizes that NORCO's amended draft deliverables will require significant revisions and is willing to discuss the due date for resubmissions. Please call me, at (214) 665-7437, to discuss the due date for NORCO's resubmissions and to schedule the recommended scoping meeting(s) to discuss the comments included in Enclosure A.

Sincerely yours,

Rafael A. Casanova

Rafael Abrego Casanova, P.G.
Remedial Project Manager

Enclosure

cc: Mr. Richard Bergner (National Oil Recovery Corporation)
Ms. Gloria Moran (U.S. Environmental Protection Agency, Region 6)
Ms. Anna Treinies (U.S. Environmental Protection Agency, Region 6)
Mr. Kenneth Shewmake (U.S. Environmental Protection Agency, Region 6)
Mr. Gary Moore (U.S. Environmental Protection Agency, Region 6)
Ms. Jessica White (U.S. National Oceanic and Atmospheric Administration)
Mr. Barry Forsythe (U.S. Fish and Wildlife Service)

cc: Ms. Tammy Ash (U.S. Fish and Wildlife Service)
Mr. Alan Etheredge (Texas Commission on Environmental Quality)
Mr. Richard Seiler (Texas Commission on Environmental Quality)
Ms. Kensley Greuter (Texas Commission on Environmental Quality)
Mr. Don Pitts (Texas Parks and Wildlife Service)
Mr. Keith Tischler (Texas General Land Office)

ENCLOSURE A
INITIAL NOTICE OF DISAPPROVAL FOR MAJOR DEFICIENCIES
EPA'S COMMENTS ON AMENDED DRAFT DELIVERABLES DATED MAY 5, 2005
REMEDIATION INVESTIGATION AND FEASIBILITY STUDY

**AMENDED DRAFT WORK PLAN, FIELD SAMPLING PLAN,
AND QUALITY ASSURANCE PROJECT PLAN**

FALCON REFINERY SUPERFUND SITE
INGLESIDE, SAN PATRICIO COUNTY, TEXAS

March 1, 2006

The U.S. Environmental Protection Agency (EPA, Region 6) has performed a technical review of the "Amended Draft Remedial Investigation and Feasibility Study (RI/FS) Work Plan" (Amended Draft WP), "Amended Draft RI/FS Field Sampling Plan" (Amended Draft FSP), and "Amended Draft RI/FS Quality Assurance Project Plan" (Amended Draft QAPP); each dated May 5, 2005. Enclosure A (Initial Notice of Disapproval for Major Deficiencies, EPA's Comments on Amended Draft Deliverables Dated May 5, 2005) consists of the EPA's comments on each amended draft deliverable. These deliverables were submitted by National Oil Recovery Corporation (NORCO) pursuant to the "Administrative Order on Consent (AOC) for Remedial Investigation and Feasibility," effective June 9, 2004, for the Falcon Refinery Superfund Site (hereinafter "the Site"). The EPA's comments, hereinafter Enclosure A, are being submitted pursuant to the AOC and are not inconsistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), National Oil and Hazardous Substances Pollution Contingency Plan (NCP), AOC for RI/FS, and Superfund RI/FS guidance and policies. The EPA's comments also consist of and consider the comments provided by the Texas Commission on Environmental Quality (TCEQ) and the Federal and State Natural Resource Trustees. The EPA has no comments on the Draft Safety and Health Plan and Quality Management Plan, each dated May 5, 2005; however, the plans should be amended to reflect the appropriate contractor performing the RI/FS for the Site. The QMP will require the EPA's Quality Assurance Official's approval.

By this Initial Notice of Disapproval for Major Deficiencies, the EPA disapproves (in whole) the Amended Draft RI/FS WP, FSP, and QAPP (dated May 5, 2005). Specifically, NORCO failed to incorporate the EPA's modifications into the text of the amended draft deliverables exactly as directed by the EPA's written comments dated February 3, 2005, concerning NORCO's Draft WP, FSP, and QAPP; as well as the EPA's written comments dated March 23, 2005 (Addendum to the EPA's 2/03/05 Comments on NORCO's 9/07/04 Draft Deliverables [Attachment H - On Compact Disk]). NORCO also failed to consider the EPA's verbal comments provided to NORCO during the initial "scoping meeting" held on July 7, 2004. In accordance with Paragraph 33 of the AOC, upon "receipt of notice of disapproval . . . NORCO must correct the deficiencies and resubmit the amended draft deliverables for approval." Further, Paragraph 34 states that if, on resubmission by NORCO, the EPA again disapproves the Amended Draft RI/FS WP, FSP, and QAPP, stipulated penalties will begin to accrue as of the date of the EPA's notice of disapproval.

Enclosure A is organized as follows. A "Table of Contents" identifies the EPA's "General Comments," "Deliverable-Specific Comments," and "Attachments" (on compact disk). The EPA's general comments are relevant to the RI/FS for the Site and are referenced in the deliverable-specific comments. The deliverable-specific comments consist of the EPA's comments pertaining to the information contained in each of NORCO's Amended Draft RI/FS deliverables.

TABLE OF CONTENTS

EPA's Comments	Page
General Comments	9
A. Key Definitions	9
B. Facility (Site) Boundaries	10
C. Hazard Ranking System Documentation Record	12
D. Data Quality Objectives	13
E. Sampling Design	15
F. Designation of Operable Units	19
G. Potentially Responsible Party	19
H. Superfund Alternative Sites	20
I. Documentation of Hazardous Substances and Contaminant Releases to the Environment	22
J. Preparation of the Proposed Plan and Record of Decision	28
K. References to the Many Diversified Interests, Inc. Superfund Site	29
L. NORCO's and EPA's Responsibilities Under the AOC - Pertinent Provisions	30
M. Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan	31
N. Major Areas Requiring Revision for NORCO's Second Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan	32
Deliverable-Specific Comments	
Amended Draft Remedial Investigation and Feasibility Study	
Work Plan	36

1.	Section 2.0 - Site Background and Setting	36
2.	Section 2.1 - Site History	37
3.	Section 2.2.1 - Site Physical Characteristics	38
4.	Section 2.2.1.4 - Surface Water Hydrology	39
5.	Section 2.2.1.6 - Human Population and Land Use	41
6.	Section 2.2.1.6 - Human Population and Land Use	42
7.	Section 2.2.1.7 - Endangered and Threatened Species	44
8.	Section 2.2.1.7 - Endangered and Threatened Species	44
9.	Section 2.2.1.7 - Endangered and Threatened Species	45
10.	Section 2.2.2 - Definition of Sources of Contamination	45
11.	Section 2.2.3 - Nature and Extent of Contamination	46
12.	Section 2.2.3 - Nature and Extent of Contamination	46
13.	Section 2.2.3 - Nature and Extent of Contamination	47
14.	Section 2.2.3 - Nature and Extent of Contamination	47
15.	Section 2.2.3 - Nature and Extent of Contamination	49
16.	Section 2.2.3 - Nature and Extent of Contamination	49
17.	Section 2.2.3 - Nature and Extent of Contamination	50
18.	Section 2.2.3 - Nature and Extent of Contamination	51
19.	Section 2.2.3 - Nature and Extent of Contamination	52
20.	Section 2.2.3.1 - Ground Water	53
21.	Section 2.2.3.1 - Ground Water	54
22.	Section 2.2.3.2 - Soil	55

23.	Section 2.2.3.2 - Soil	55
24.	Section 2.2.3.2 - Soil	56
25.	Section 2.2.3.2 - Soil	57
26.	Section 2.2.3.2 - Soil	58
27.	Section 2.2.3.4 - Sediments	60
28.	Section 2.2.4.1 - Other Sources	61
29.	Section 2.2.4.1 - Other Sources	61
30.	Section 2.2.4.1 - Other Sources	62
31.	Section 2.2.4.1 - Other Sources	63
32.	Section 3.0 - Initial Evaluation	64
33.	Section 3.0 - Initial Evaluation	65
34.	Section 3.1 - Types and Volumes of Waste	66
35.	Section 3.2 - Potential Pathways of Contaminant Migration	66
36.	Section 5.4 - Community Relations	67
37.	Section 5.5.1 - General Site Description	68
38.	Section 5.5.2 - BHHRA Objectives	68
39.	Section 5.5.4- Guidelines for Data Reduction	70
40.	Section 5.5.7 - Setting	71
41.	Section 5.5.9 - Surface Water and Ground Water Resources and Uses	71
42.	Section 5.5.9 - Surface Water and Ground Water Resources and Uses	72
43.	Section 5.5.10 - Potentially Exposed Populations	72

44.	Section 5.5.12 - Exposure Pathways	73
45.	Section 5.5.13- Exposure Point Concentrations	74
46.	Section 5.5.15 - Toxicity Assessment and Documentation	75
47.	Section 5.5.15 - Toxicity Assessment and Documentation	76
48.	Section 5.5.17 - Carcinogenic Risk	76
49.	Section 5.5.18 - Non-Carcinogenic Effects	77
50.	Section 5.5.20 - Approach for Developing Preliminary Remediation Goals	78
51.	Section 5.6. - Baseline Ecological Risk Assessment	80
52.	Section 5.6.2 - Screening Level Assessment	81
53.	Section 5.6.2 - Screening Level Assessment	81
54.	Section 5.6.2.1.3 - Sediments	82
55.	Section 5.6.2.1.4 - Screening Level Ecological Risk Assessment Report	82
56.	Section 5.6.3.1.2 - Characterization of Habitats	83
57.	Section 5.6.3.1.5 - Identification of Exposure Pathways	84
58.	Section 5.6.3.1.6 - Ecotoxicity of Contaminants	85
59.	Section 5.6.3.2.2 - Exposure Point Concentrations	85
60.	Section 5.7.4 - TS Work Plan Deliverables	86
61.	Section 5.7.5 - Treatability Study Report	87
62.	Section 5.8.1.1 - Phases of the Feasibility Report	87
63.	Section 5.8.2.1 - Task 1, Develop Remedial Action Objectives	87
64.	Section 5.8.2.2 - Task 2, Develop General Response Actions	88
65.	Section 5.8.2.7.2 - Screening Evaluation	89

66.	Section 5.8.3.2.3 - Long Term Effectiveness and Permanence	89
67.	Section 5.8.3.2.5 - Short Term Effectiveness	90
68.	Section 5.8.5.1 - Alternative Development and Screening Reporting	91
69.	Section 5.8.5.2 - Detailed Analysis of Alternatives for Remedial Action Reporting	91
70.	Section 6.0 - Schedule	92
71.	Section 7.0 - Project Management	93
72.	Section 8.0 - Reporting	93
73.	Section 11.0 - References	94

Deliverable-Specific Comments

Amended Draft Remedial Investigation and Feasibility Study

	Field Sampling Plan	94
74.	Amended Draft Field Sampling Plan Content	94
75.	Section 4.0 - Sampling Objectives	95
76.	Section 4.0 - Sampling Objectives	96
77.	Section 4.0 - Sampling Objectives	97
78.	Section 5.0 - On-Site Sample Locations and Frequency	97
79.	Section 5.0 - Sample Locations and Frequency	98
80.	Section 5.0 - On-Site Sample Locations and Frequency	99
81.	Section 5.0 - On-Site Sample Locations and Frequency	101
82.	Section 6.0 - Off-Site Sampling Locations and Frequency	102
83.	Section 6.1 - AOCs 8, 9 and 10 (Wetlands)	102
84.	Section 6.4.1 - Background Information	104

85.	Section 6.6.1 - AOC 16 Background Information	105
86.	Section 7.0 - General Sampling Protocols	106
87.	Section 8.0 - Documentation	106
Deliverable-Specific Comments		
Amended Draft Remedial Investigation and Feasibility Study		
	Quality Assurance Project Plan	107
88.	Q-Trak #	107
89.	Amended Draft Quality Assurance Project Plan	107
90.	Section A5.1 - Task Organization	108
91.	Section A6.1 - Problem Definition	109
92.	Section A8.1.7.2 - Develop General Data Collection Design Alternatives and Sample Size that Satisfies the DQO	109

**Attachments
(On Compact Disk)**

Attachment

- A - Documentation of Hazardous Substances and Contaminant Releases to the Environment
- B - Many Diversified Interests Inc. Superfund Site; Houston, Texas;
Field Sampling Plan and Quality Assurance Project Plan
- C - Example Conceptual Site Models (Flow Diagram and Schematic Formats)
- D - Example Tables of Sample Quantitation Limits and Screening Levels
- E - Example Sampling Design Summary Tables
- F - Example Judgmental and Random Grid Sampling Designs
- G - Example "Visual Sample Plan" Probabilistic Sampling Design
- H - Addendum to the EPA's 2/03/05 Comments on NORCO's 9/07/04 Draft Deliverables

General Comments

The following "General Comments" consist of Superfund-specific issues which NORCO may not have considered in their preparation of the September 7, 2004, and May 5, 2005, draft and amended draft RI/FS deliverables, respectively. These general comments are relevant to the RI/FS for this Site and are referenced in the EPA's "Deliverable-Specific Comments" on the Amended Draft WP, FSP, and QAPP. The EPA's general comments are listed alphabetically.

A. *Key Definitions*

The following "key definitions" apply to the RI/FS for this Site. These definitions are referenced throughout the EPA's comments.

"Facility" is defined in CERCLA §101(9) as:

"(A) any building, structure, installation, equipment, pipe or pipeline . . . , well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, . . . or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located;"

"Hazardous substance" is defined in CERCLA §101(14) as:

"(A) any substance designated pursuant to the Clean Water Act, (B) any element, compound, mixture, solution, or substance designated pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, (C) any hazardous wastes having the characteristics identified or listed pursuant to the Resource Conservation and Recovery Act, (D) any toxic pollutant listed under the Clean Air Act." [The EPA maintains and updates a list of hazardous substances in 40 CFR Part 302.4 (Designation of Hazardous Substances)].

"Pollutant or contaminant" is defined in CERCLA §101(33) as including:

"any element, substance, compound, or mixture . . . which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause adverse effects in such organisms or their offspring."

"Potentially Responsible Party" is defined in CERCLA §107(a)(1), which imposes liability on four classes of persons:

"(1) the current owner and operator of a vessel or facility; (2) any prior person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of, (3) any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, . . . (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities . . . from which there is a release, or threatened release which causes the incurrence of response costs, of a hazardous substance"

"Release" is defined in CERCLA §101(22) as:

"any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment"

B. Facility (Site) Boundaries

The EPA uses the term "site," which is not defined in CERCLA, in referring to a "release" or "facility" on the National Priorities List (NPL). The term "site" is meant to be synonymous with "release" or "facility" and is not meant to suggest that the listing is geographically defined. The following discussions clarify the intent and meaning of these terms.

The Federal Register Notice (Final Rule; National Priorities List for Uncontrolled Hazardous Waste Sites; Volume 56, No. 28; February 11, 1991), concerning the NPL, states that:

"The NPL does not describe releases in precise geographical terms, and the agency [EPA] believes that it would be neither feasible nor consistent with the limited purpose of the NPL (as the mere identification of releases), for it to do so. CERCLA Section 105(a)(8)(B) directs EPA to list national priorities among the known 'releases or threatened releases' of hazardous substances. Thus, the purpose of the NPL is merely to identify releases of hazardous substances that are priorities for further evaluation. The names of sites are provided for identification purposes only; the sites are not limited to (or coextensive with) the boundaries of properties that may be referred to in the name. Of course, HRS data upon which listing is based will, to some extent, describe which release is at issue; that is, the NPL site would include (but not be limited to) all releases evaluated as part of that HRS analysis"

Identifying a release or facility on the NPL¹ provides notice that the entire facility will be addressed; the facility includes the source or sources of contamination and any area where a hazardous substance release has 'come to be located' (CERCLA Section 101(9)). The listing process is not intended to define or reflect the 'boundaries' of such facilities or releases. In fact, CERCLA does not refer to site 'boundaries,' and that term has little or no legal significance.

The NPL does provide that the nature and extent of the threat presented by a release will be determined by an RI/FS as more information is developed on site contamination (40 CFR 300.430(d)(2) (55 FR 8847, March 8, 1990)). During the RI/FS process, the release may be found to be larger or smaller than was originally known, as more is learned about the source and the migration of the contamination. However, this inquiry focuses on an evaluation of the threat posed; the boundaries of the release need not be defined, and in any event are independent of listing. Moreover, it generally is impossible to discover the full extent of where the contamination 'has come to be located' before all necessary studies and remedial work are completed at a site; indeed, the boundaries of the contamination can be expected to change over time. Thus, in most cases, it will be impossible to describe the boundaries of a release with certainty. At the same time, however, the RI/FS or the Record of Decision (which defines the remedy selected) may offer a useful indication to the public of the areas of contamination at which the Agency is considering taking a response action, based on information known at that time.

¹The terms 'facility' and 'release' are used interchangeably in CERCLA Section 105(a)(8)(B), which establishes the NPL. For ease of reference, EPA also uses the term 'site,' which is not defined in CERCLA, in referring to a 'release' or 'facility' on the NPL. The term 'site' is meant to be synonymous with 'facility' or 'release' and is not meant to suggest that the listing is geographically defined."

The EPA's Potentially Responsible Party (PRP) search manual entitled, "PRP Search Manual" (Office of Enforcement and Compliance Assurance, September 2003) states that:

"The term 'facility' has been interpreted to include the site of a hazardous waste disposal operation and the ground upon which hazardous substances were deposited."

C. *Hazard Ranking System Documentation Record*

The information presented in NORCO's Draft and Amended Draft WP and FSP significantly relied upon the data presented in the "Hazard Ranking System Documentation Record" (HRS, February 2002) for the Site, prepared by the Texas Natural Resource Conservation Commission (now the TCEQ) in cooperation with the EPA. The following discussions clarify the intent and purpose of the HRS.

Appendix A (HRS) to Part 300 of the NCP states that:

"The HRS serves as a screening device to evaluate the potential for releases of uncontrolled hazardous substances to cause human health or environmental damage. The HRS provides a measure of relative rather than absolute risk. It is designed so that it can be consistently applied to a wide variety of sites."

The EPA's HRS fact sheet entitled, "The Revised Hazard Ranking System: Qs and As" (Publication 9320.7-02FS, November 1990) provides additional clarification on the intent and purpose of the HRS. The HRS fact sheet states that the HRS is designed to be a simple, numerically based scoring system that uses information obtained from the initial, limited investigations conducted at a site; specifically, the Preliminary Assessment (PA) and the Site Inspection (SI). The EPA uses the HRS as a screening mechanism to determine whether a site should be placed on the NPL. The NPL informs the public of sites that the EPA has decided require further detailed investigations. These investigations determine whether the sites represent a long-term threat to public health or the environment and, therefore, require remedial action.

The HRS fact sheet states that the HRS is not a risk assessment. Initial studies like a PA or SI, used in the preparation of the HRS documentation, are not as detailed in scope as an RI/FS. The HRS is used as a screening tool to identify those sites that represent the highest priority for further investigation and possible cleanup under the Superfund program. Its purpose is not to fully characterize the source and the extent of the contamination at a site or to define site risks to human health and the environment. This is accomplished during the RI/FS.

The HRS fact sheet also states that the HRS does not determine whether cleanup is possible or necessary, or the amount of cleanup needed at a site; these issues are considered in the more detailed RI/FS that the EPA undertakes to assess the nature and extent of the public health and environmental risks associated with the site. In planning these remedial investigations, the EPA does consider the HRS score, along with, further site data, other response alternatives, and other appropriate factors.

D. Data Quality Objectives

The Amended Draft QAPP (including the Draft and Amended Draft WP and FSP) submitted by NORCO does not adequately discuss the required Data Quality Objectives (DQO) for the RI/FS and the Site. The DQO Process should be used during the planning stage of any study that requires data collection, *before* the data are collected and before NORCO's submittal of the Second Amended Draft WP, FSP, and QAPP. The following discussions clarify the intent and purpose of DQOs.

The EPA's DQO guidance document entitled, "Guidance for the Data Quality Objectives Process" (EPA QA/G-4, EPA/600/R-96/055, August 2000) should be used in the development of DQOs for this Site. This document describes the use of the DQO Process, a seven-step planning approach to develop sampling designs for data collection activities, in planning data collection efforts and development of an appropriate data collection design to support decision making. DQOs are qualitative and quantitative statements which are developed using the DQO process and that clarify study objectives and define the appropriate type of data. The DQO guidance document states that:

"The final outcome of the DQO Process is a design for collecting data (e.g., the number of samples to collect, and when, where, and how to collect samples) together with limits on the probabilities of making decision errors.

.....

The DQO Process should be used during the planning stage of any study that requires data collection, *before* the data are collected.

.....

The seventh step [of the DQO Process] is used to develop a data collection design based on the criteria developed in the first six steps. In this step the planning team considers the final product of the DQO Process, a data collection design that meets the quantitative and qualitative needs of the study using a specified number of samples that can be accommodated by the budget available. The outputs of the DQO Process are used to develop a QA Project Plan

.....

A data collection design specifies the number, location, physical quantity, and type of samples that should be collected to satisfy the DQOs. The sampling design designates where, when, and under what conditions samples should be collected; what variables are to be measured; and the QA [Quality Assurance] and QC [Quality Control] activities that will ensure that sampling design and measurement errors are managed sufficiently to meet the tolerable decision error rates specified in the DQOs. These QA and QC activities together with details of the data collection design are documented in the QA Project Plan.

.....

To assist the design team in their development of alternative designs and evaluation of costs for a few select sampling designs and operational decision rules, EPA has developed the software [among others], Data Quality Objectives Decision Error Feasibility Trials (DEFT) Software (EPA QA/G-4D, 1994 . . .). DEFT is a personal computer software package developed to assist your planning team in evaluating whether the DQOs are feasible (i.e., can be achieved within resource constraints) before the development of the final data collection design is started. DEFT uses the outputs generated in Steps 1 through 6 of the DQO Process to evaluate several basic data collection designs and determines the associated cost. DEFT presents the results in the form of a Decision Performance Goal Diagram that overlays the desired Decision Performance Curve of the sampling design.

.....

For EPA programs, the operational requirements for implementing the data collection design [developed through the DQO Process] are documented in the Field Sampling Plan, Sampling and Analysis Plan, QA Project Plan”

The EPA's QAPP guidance document entitled, “Guidance for Quality Assurance Project Plans” (EPA QA/G-5, EPA/240/R-02/009, December 2002) states that:

“The outputs from the Agency's [EPA's] recommended systematic planning process, the Data Quality Objectives (DQO) Process, are ideally suited to addressing the first component of this element [i.e., the QAPP component being the “outputs from the systematic planning process (e.g., DQOs) used to design the study, and the element being ‘Quality Objectives and Criteria for Measurement Data,’ both under Group A (Project Management) QAPP elements].”

E. Sampling Design

The "judgmental" sampling design for the soils, surface water, and sediments presented in NORCO's Draft and Amended Draft WP and FSP significantly relied upon the known source areas identified in the HRS Documentation Record. The EPA agrees that a judgmental sampling design would be appropriate for the known source areas of contamination or "hot spots;" however, a judgmental sampling design alone does not meet the EPA's requirements for a well-developed sampling design that can be used to support human health and ecological risk assessments for this Site. A well-developed sampling design plays a critical role in ensuring that data are of sufficient quantity and quality to reach the conclusions needed (e.g., to support a decision about whether contamination levels exceed a threshold of unacceptable risk), and are adequately representative of the target population and defensible for their intended use. To generate accurate information about the level of contamination in the environment, the representativeness of the data with respect to the objective(s) of the study must be considered. The following discussions clarify the intent and purpose of a well-developed sampling design.

Guidance on how to create sampling designs to collect environmental measurement data is provided in the EPA's sampling design guidance document entitled, "Guidance on Choosing a Sampling Design for Environmental Data Collection, for Use in Developing a Quality Assurance Project Plan" (EPA QA/G-5S, EPA/240/R-02/005, December 2002). The sampling design guidance document states that:

"There are two main categories of sampling designs: probability-based designs and judgmental designs. Probability-based sampling designs apply sampling theory and involve random selection of sampling units. An essential feature of a probability-based sample is that each member of the population from which the sample was selected has a known probability of selection. When a probability-based design is used, statistical inferences [e.g., selection of the statistically-derived 95% Upper Confidence Limit of the arithmetic mean concentration in soil, surface water, and sediments as the Exposure Point Concentration, which is the concentration term in the intake equations in Superfund risk assessments] may be made about the sampled population from the data obtained from the sampling units. That is, when using a probabilistic design, inferences can be drawn about the sampled population, such as the concentration of fine particulate matter . . . in ambient air . . . , even though not every single 'piece' of the . . . air is sampled. Judgmental sampling designs involve the selection of sampling units on the basis of expert knowledge or professional judgment [i.e., known source areas of contamination or hot spots].

When using probabilistic sampling, the data analyst can draw quantitative conclusions about the sampled population. That is, in estimating a parameter (for example, the mean), the analyst can calculate a 95% confidence interval for the parameter of interest. If comparing this to a threshold, the analyst can state whether the data indicate that the concentration exceeds or is below the threshold with a certain level of confidence. Expert judgment is then used to draw conclusions about the target population based on the statistical findings about the sampled population.

When using judgmental sampling, statistical analysis cannot be used to draw conclusions about the target population. Conclusions can only be drawn on the basis of professional judgment. The usefulness of judgmental sampling will depend on the study objectives, the study size and scope, and the degree of professional judgment available. When judgmental sampling is used, quantitative statements about the level of confidence in an estimate (such as confidence intervals) cannot be made."

The EPA's sampling design guidance document also discusses the Visual Sample Plan (VSP), a software tool for selecting the right number and location of environmental samples so that the results of statistical tests performed on the data collected via the sampling plan have the required confidence needed for decision making. VSP supports the implementation of the DQO Process by visually displaying different sampling plans, linking them to the DQO Process [between Steps 6 and 7 of the process], and determining the optimal sampling specifications to protect against potential decision errors. The sampling design guidance states that:

"A key goal of sampling design is to specify the sample size (number of samples) and sampling locations that will provide reliable information for a specific objective . . . at the least cost. VSP does these required calculations for sample size and sample location and outputs a sampling design that can be displayed in multiple formats."

The EPA's supplemental guidance document for calculating the concentration term entitled, "Supplemental Guidance to RAGS: Calculating the Concentration Term" (Publication 9285.7-081, May 1992) states that:

"For Superfund assessments, the concentration term (C) in the intake equation is an estimate of the arithmetic average concentration for a contaminant based on a

set of site sampling results. Because of the uncertainty associated with estimating the true average concentration at a site, the [statistically-derived] 95 percent upper confidence limit (UCL) of the arithmetic mean should be used for this variable. The 95 percent UCL provides reasonable confidence that the true site average will not be underestimated.

.....

The choice of the arithmetic mean concentration as the appropriate measure for estimating exposure derives from the need to estimate an individual's long-term average exposure."

The EPA's UCL exposure point concentration guidance document entitled, "Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites" (OSWER 9285.6-10, December 2002) updates the May 1992 UCL guidance and provides alternative methods for calculating the 95% UCL. The statistical methods described in this guidance for calculating UCLs are based on the assumption of random sampling.

The EPA's human health risk assessment guidance document entitled, "Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual, Part A, Interim Final" (EPA/540/1-89/002, December 1989) states that:

"There are three general strategies for establishing sample locations: (1) purposive [judgmental], (2) completely random, and (3) systematic. Various combinations of these general strategies are both possible and acceptable.

.....

Although areas of concern are established purposively (e.g., with the intention of identifying contamination), the sampling locations within the areas of concern generally should not be sampled purposively if the data are to be used to provide defensible information for a risk assessment. Purposively identified sampling locations are not discouraged if the objective is site characterization, conducting a chemical inventory, or the evaluation of visually obvious contamination. The sampling results, however, may overestimate [i.e., perform a remedial action when the action is not warranted] or underestimate [i.e., a remedial action is not performed while site contaminants pose a risk to human health and/or the environment] the true conditions at the site depending on the strategies of the sampling team. Due to the bias associated with the samples, data from purposively identified sampling locations generally should not be modeled and used to estimate other relevant statistics. After areas of concern have been

established purposively, ground-water monitoring well locations, continuous air monitor locations, and soil sample locations should be determined randomly or systematically within the areas of concern.

Random sampling involves selecting sampling locations in an unbiased manner. Although the investigator may have chosen the area of concern purposively, the location of random sampling points within the area should be independent of the investigator (i.e., unbiased). In addition, the sampling points should be independent of each other; that is, it should not be possible to predict the location of one sampling point based on the location of others. Random sampling points can be established by choosing a series of pairs of random numbers that can be mapped onto a coordinate system that has been established for each area of concern.

.....

Systematic sample locations are established across an area of concern by laying out a grid of sampling locations that follow a regular pattern. Systematic sampling ensures that the sampling effort across the area of concern is uniform and that samples are collected in each area. The sampling location grid should be determined by randomly identifying a single location from which the grid is constructed. If such a random component is not introduced, the sample is essentially purposive. The grid can be formed in several patterns including square, rectangular, triangular, or hexagonal, depending on the shape of the area. A square pattern is often the simplest to establish. Systematic sampling is preferable to other types of sampling if the objective is to search for small areas with elevated concentrations.

.....

Actions at Superfund sites should be based on an estimate of the reasonable maximum exposure (RME) expected to occur under both current and future land-use conditions. The reasonable maximum exposure is defined here as the highest exposure that is reasonably expected to occur at a site. RMEs are estimated for individual pathways. If a population is exposed via more than one pathway, the combination of exposures across pathways also must represent an RME."

The EPA's data useability guidance document entitled, "Guidance on Data Useability in Risk Assessment, Part A, Final" (Publication 9285.7-09A, PB92-963356, April 1992) provides data users with a nationally consistent basis for making decisions about the minimum quality and quantity of environmental analytical data that are sufficient to support Superfund risk assessment

decisions. This guidance document also discusses the applicability of random sampling designs in providing unbiased estimates of chemical occurrence and concentration useful in calculating the RME.

F. Designation of Operable Units

The designation of "Operable Units" (OU) may be appropriate for this Site, depending on the outcome of the DQO Process and other factors, as discrete actions that comprise an incremental step toward comprehensively addressing the distinct geographical portions and the different media (soil, ground water, surface water, and sediments) that are possibly affected by the Site and prioritizing the removal and remedial actions. The following discussions clarify the intent and purpose of OUs.

OUs are described in the NCP (Final Rule; Federal Register, Volume 55, Issue 46, Page 8666; March 8, 1990). OUs may be actions that completely address a geographical portion of a site or a specific site problem (e.g., drums and tanks, contaminated ground water) or the entire site.

The EPA's Record of Decision (ROD) guidance document entitled, "A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents" (EPA 5-10-R-98-031, July 1999) states that:

"An RI/FS can be performed on the site as a whole, or for a particular portion of the site. The NCP defines an operable unit (OU) as a discrete action that comprises an incremental step toward comprehensively addressing site problems. Hence, an operable unit can be a certain geographic portion of a site or can address an environmental medium at the site (e.g., ground water, soil)."

G. Potentially Responsible Party

NORCO stated in the RI/FS deliverables that they never operated the facility or spilled any materials. Although Paragraph 12 of the AOC states that, "The Respondent never operated the refinery," this statement does not relieve NORCO of their responsibility as a PRP to address all contamination "at" or "from" the Site. The following discussions, including those in General Comments A (Key Definitions - Potentially Responsible Party) and L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), clarify the meaning of a PRP and NORCO's responsibilities in accordance with the AOC.

The EPA's PRP search manual entitled, "PRP Search Manual" (Office of Enforcement and Compliance Assurance, September 2003) states that:

"CERCLA section 107(a)(1) imposes liability on the present owner(s) and operator(s) of a vessel or facility from which there has been a release of a hazardous substance, even if they did not own or operate the facility at the time of disposal of hazardous substances. The term 'owner or operator' is defined in section 101(20), and has been interpreted broadly by courts to include almost any person who has an ownership interest in or the ability to manage or control a business."

The EPA's RI/FS oversight guidance document entitled, "Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies, Final, Volume 1" (EPA/540/G-91/010a, OSWER Directive 9835.1c, July 1991) states that:

"The purpose of [EPA's] oversight is to ensure that an RI/FS prepared by a PRP in an enforcement-lead response action is equivalent to the RI/FS that EPA would have prepared if the site were fund-lead.

.....
A PRP-lead RI/FS must be as comprehensive as a federally funded RI/FS and must be of comparable quality."

H. Superfund Alternative Sites

The principle of Superfund alternative response actions is to provide the same level of investigation and cleanup as if the Site were on the NPL. The following discussions clarify the intent and purpose of NORCO's "Superfund alternative site designation."

Paragraph 4 of the AOC states that:

"NORCO and EPA agree that this Site was proposed for listing by the EPA on the National Priorities List ('NPL') on September 5, 2002 (67 Federal Register 56794), and may be eligible to be placed on a final NPL. EPA agrees to suspend the listing of this site on a final NPL and NORCO agrees that EPA will suspend the listing of this site on a final NPL so long as NORCO undertakes the actions equivalent to those required at NPL sites in accordance with the terms and conditions of this Order [AOC] and the EPA's memorandum addressing alternative sites ('Response Selection and Enforcement Approach for Superfund Alternative Sites,' June 24, 2002; OSWER 92-08.0-17 [Superfund Alternative Sites Guidance])."

The EPA's alternative sites memorandum entitled, "Response Selection and Enforcement Approach for Superfund Alternative Sites" (OSWER 92-08.0-17; June 24, 2002) states that:

"As in the case of NPL sites, EPA will:

.....

Prepare an RI/FS and a Record of Decision ('ROD') that documents the final cleanup decision (NCP §300.430 (d), (e), and (f)).

Select and attain Applicable or Relevant and Appropriate Requirements ('ARARs'). Superfund Alternative sites should attain the same cleanup standards as NPL sites (CERCLA § 121 and the NCP, §300.430).

.....

Ensure a complete cleanup in accordance with NCP standards.

Certify that the work is complete and that performance standards have been attained at Superfund Alternative sites using the same process used for NPL sites.

.....

The principle of Superfund Alternative response action[s] is to provide the same level of cleanup as if the site was listed on the NPL. Superfund Alternative sites should attain these same NCP cleanup standards."

The EPA's revised alternative sites memorandum entitled, "Revised Response Selection and Enforcement Approach for Superfund Alternative Sites" (OSWER 9208.0-18; June 17, 2004) generally includes the initial statements of the previous alternative sites memorandum and also states that:

"Regions [EPA] should follow practices normally employed at NPL sites, while also taking steps to ensure equivalency in the absence of an NPL listing."

I. Documentation of Hazardous Substances and Contaminant Releases to the Environment

Attachment A (Documentation of Hazardous Substances and Contaminant Releases to the Environment [on compact disk]) of the EPA's comments is comprised of the documentation related to the Site's hazardous substances and the known on- and off-site contaminant releases to the environment. These documents were compiled from Federal and State sources.

Reference "numbers" correspond to the reference numbers used in the HRS Documentation Record for the Site. Reference "letters" are used for references not included in the HRS Documentation Record. Although additional documentation of the Site's hazardous substances and known contaminant releases to the environment is included in the HRS Documentation Record, the documentation in Attachment A is specifically being provided as a reference to the EPA's comments on the Amended Draft WP and FSP. Following is a summary of the documentation included in Attachment A.

Reference 9

Reference 9 (Texas Water Commission Solid Waste Compliance Monitoring Inspection Report, 6/05/86) states that:

"The company disposed of cooling tower sludges on-site [near the plant refuse disposal area] which contain high levels of chromium. No runoff controls are provided. Additionally, there are some drums which have leaked unknown materials onto the ground.

.....
The company does not have a designated drum storage area

.....
South of the cooling tower sludge disposal area there was a substantial quantity of what appeared to be general refuse, empty drums,

.....
During December 1985 the refinery made a 100,000 barrels run of slop oil which generated a substantial amount of very odorous wastewater. The refinery's

wastewater treatment system was inoperable during this run. The refinery . . . ultimately discharged the untreated wastewater into sandy, unlined containment structures [fire walls]."

Reference 10

Reference 10 (EPA Potential Hazardous Waste Site, Site Inspection Report, 12/14/87) proposes a sampling location in a nearby residential area located immediately northeast of the refinery (Sample Location #9, Soil from Sinkhole at . . . Residence). The report states that:

"Local resident . . . , who lives on Bishop Road adjacent to the site, reported that her son fell into a 'sinkhole' associated with a Falcon Pipeline on her property and was covered with an oily sludge."

The report also states that:

"Records indicate that a substantial amount of waste from 104,000 bbl of a material received from Tenneco in January 1986 remains in the pipelines and tanks. . . . noxious odor complaints . . . began when Falcon started processing this material Mr. Tom Palmer of TACB has concluded that the Tenneco material was not virgin petroleum, but a mixture of organic solvents and is probably waste. TACB analytical results from a sample of material taken from a tank on 1-13-87 [1-13-86] support this assumption.

.....
There is evidence of runoff and breaks in the integrity of the dikes surrounding the tanks [Photos #9-12, near Tanks 26 and 27 located immediately adjacent to the wetland area, show the integrity of the dikes]."

Reference 25

Reference 25 (Letter from TNRCC to Mr. Richard Bergner; 2/23/96) states that:

"On February 16 and 19, 1996, representatives from the . . . (TNRCC) Region 14 conducted an inspection of the . . . (NORCO) facility in Ingleside. . . . The inspection [inventory of the tank contents] was conducted in response to an alleged crude oil pipeline spill from the facility on November 15, 1995. Analysis of the spilled residual [References 25 and 35] reveals constituents not naturally occurring in crude oil."

The spilled residuals referenced in References 25 and 35 (Letter from TNRCC to MJP Resources Inc., 3/01/96) refer to the analytical data provided in Reference 35. The TNRCC did perform an inventory of the tank contents on February 16 and 19, 1996. These data are provided in Reference 31 of the HRS Documentation Record.

Reference 30

Reference 30 (Memorandum from EPA's Region 6 Lab to the Office of Criminal Investigation, 3/27/96) provides the analytical results of the samples taken from Tanks N1 and N2 on February 15, 1996. Vinyl acetate, not naturally occurring in crude oil, was detected at concentrations of 1,360 milligrams/liter (mg/l) and 36,600 mg/l in Tanks N1 and N2, respectively.

Reference 33

Reference 33 (TNRCC, Oil or Hazardous Substances Discharge or Spill or Air Release Report; 11/15/95 [reported], 11/16/95 [date of report]) is a report documenting a 11/15/95 spill from a pipeline, operated by MJP Resources Inc., approximately one mile south southeast of FM 2725 on Bishop Road and adjacent to the Brown and Root Facility in a wetland area. The spill area is located outside of the fenced boundaries of the facility between Bishop Road and Sunray Road and north of Bay Avenue.

Reference 34

Reference 34 (Telephone Memo to the File, From TNRCC to the Texas Railroad Commission [RRC]; 2/23/96) provides notification to the RRC that the spill that occurred from the MJP Resources pipeline (Reference 33) is under the jurisdiction of the TNRCC, based on analyses of the samples collected at the spill site. The analyses indicate the presence of substances other than those naturally occurring in crude oil. The spill area is located outside of the fenced boundaries of the facility between Bishop Road and Sunray Road and north of Bay Avenue.

Reference 35

Reference 35 (Letter from TNRCC to MJP Resources Inc., 3/01/96) states that:

"On November 15, 1995, a release from the MJP Resources Inc. Pipeline between Sunray and Bishop Roads was inspected by . . . [TNRCC] staff. . . . Analyses of samples collected in the spill area indicate constituents not normally found in crude oil were released during the spill event. Based on this information, it appears that the spill will have to be remediated under TNRCC guidance"

Reference 45

Reference 45 (Interoffice Memorandum, Texas Department of Water Resources, Reference a Temporary Pond to Store Treated Effluent [Permit 02142], 7/02/79) states that:

"On June 17, 1979, . . . [he] called me and requested that I inspect the pond before they started using it. He said they had uncovered some oily ground.

.....

Close inspection revealed the discoloration to be from oil. In one instance, several ounces of oil had seeped to the surface and ponded. There was also oily trash."

Previously, the EPA believed that this temporary pond was located at the South Site in the same general vicinity as the surface impoundment associated with the wastewater treatment system and immediately adjacent to the wetland area within the fenced boundaries of the facility. The EPA now knows that this pond was located at the North Site.

Reference 46

Reference 46 (Investigation Form, Texas Air Control Board, 4/13/87) states that:

"Upon investigation of the area within the refinery's tank farm, . . . [the investigators] noted a black, liquid substance beneath a pipeline rack on the north side of the refinery. The pipeline runs parallel to Bishop Road within the refinery fence line. Upon further investigation, we [the investigators] noted a leak in the third pipeline (10-inch diameter) pipe from Bishop Road. The black, thin liquid appeared to be either a solvent with hydrocarbon/carbon or a crude oil with solvents intermixed."

A bulldozer was used to cover this spill area. The area of the spill is in the immediate vicinity of a drainage pathway to the on- and off-site wetland areas of the facility.

Reference 58

Reference 58 (Interoffice Memorandum, Texas Water Commission, 1/14/86) states that:

"The company's [ARM Refining Company] operation now consists of reclaiming waste oil from drilling site pond skim and used lubrication oil from various sources.

.....

A follow-up inspection on December 11, 1985, . . . resulted in documenting an oil spill from an ARM pipeline which caused pollution to the surface waters of the State."

This spill impacted the wetland area within the fenced boundaries of the facility. This wetland area drains into the wetland area across Bishop Road outside of the fenced boundaries of the facility.

Reference A

Reference A (Texas Parks and Wildlife Department; Fish Kill/Pollution Complaint Detailed Report; Start Date, 11/14/95) describes a pipeline spill by MJP Resources. This spill occurred outside of the fenced boundaries of the facility in a marsh area between Bishop Road and Sunray Road and north of Bay Avenue. References 25, 34, and 35 indicate that the samples collected and analyzed from the spill site indicate the presence of substances other than those naturally occurring in crude oil.

Reference B

Reference B (Texas Parks and Wildlife Department; Fish Kill/Pollution Complaint Detailed Report; Start Date, 04/16/02) describes a pipeline spill on land adjacent to a wetland. This area is located outside of the fenced boundaries of the facility, east of the intersection of Bay Avenue and Sunray Road. References C (Railroad Commission of Texas, Inspection Report, Initial Report dated 4/05/02) and D (TCEQ; Notice of Referral for the Hydrocarbon Release at Offshore Specialty Fabricators; 802 Sunray Road, Ingleside [San Patricio County], Texas; 9/09/02) provide additional information concerning this spill.

Reference C

Reference C (Railroad Commission of Texas, Inspection Report, Initial Report dated 4/05/02) consists of several reports concerning the spill described in References B, D (TCEQ; Notice of Referral for the Hydrocarbon Release at Offshore Specialty Fabricators; 802 Sunray Road, Ingleside [San Patricio County], Texas; 9/09/02), and E (Photos Taken by the U.S. Fish and Wildlife Service on 9/18/02). An analyses of the hydrocarbons in the wetland area of the pipeline spill revealed the presence of vinyl acetate. The reporting units documented in the analytical reports may be a lab error and, without access to the Quality Assurance Reports, the EPA believes that the correct reporting units for the vinyl acetate should be reported in liters. Jurisdiction of the spill was later transferred to the TNRCC because of the presence of constituents not naturally occurring in crude oil.

Reference D

Reference D (TCEQ; Notice of Referral for the Hydrocarbon Release at Offshore Specialty Fabricators; 802 Sunray Road, Ingleside [San Patricio County], Texas; 9/09/02) states that because impact to the ground water has been documented and this incident [pipeline spill] may be a result of historical contamination, the spill has been referred to the Remediation Division's Corrective Action Section for oversight. Reference D also contains specific documentation of the pipeline spill and acknowledges that the spilled materials contained constituents other than those naturally occurring in crude oil. The reports described the impacts to the adjacent wetland areas. References B, C, and E (Photos Taken by the U.S. Fish and Wildlife Service on 9/18/02) provide additional information concerning this spill. A telephone memorandum (dated 9/10/02) suggests that the pipeline spill could have been attributed to the opening of valves at the NORCO facility.

Reference E

Reference E (Photograph Taken by the U.S. Fish and Wildlife Service on 9/18/02) provides a photograph of the spill area discussed in References B, C, and D. This photograph shows the number of pipelines uncovered during the excavations at the wetland area and the immediate proximity of surface water. The facility can be seen in the upper left-hand corner of the photograph.

Reference F

Reference F (Texas Parks and Wildlife Department; Fish Kill/Pollution Complaint Detailed Report; Start Date, 09/20/02) describes an oil spill from a storage tank (Tank #7, North Site). The report states that oil ran over the road (beyond the fenced boundaries of the facility) and entered a flood ditch.

Reference G

Reference G (TNRCC, Oil and Hazardous Substances Spill or Discharge Report, 9/20/02) consists of various reports and photographs of the tank leak described in Reference F. Photograph #3 depicts the spilled liquids located outside of the fenced boundaries of the facility.

Reference H

Reference H (Photograph Taken by TCEQ on 7/07/04) provides a photograph of Tank #27. This tank was leaking at the time of the site visit. The photograph shows the staining and

free liquids within the bermed area, which appeared to have recently been amended with soil. This tank is located immediately adjacent to the wetland area within the fenced boundaries of the facility. This wetland area drains into the wetland area across Bishop Road outside of the fenced boundaries of the facility.

Reference I

Reference I (Monthly Report of the EPA's Activities Concerning the CIP [Community Involvement Plan], 10/19/04) provides the EPA's monthly report of activities concerning the CIP. This report was submitted to NORCO pursuant to Task 5 (CIP), Paragraph 24, of the RI/FS SOW. This report summarizes, among other activities, the EPA's interviews with local residents which have historically and recently raised concerns about their residential soils.

J. Preparation of the Proposed Plan and Record of Decision

The RI/FS for this Site must be conducted in a manner that allows the EPA to meet its statutory and regulatory responsibilities for the preparation of the Proposed Plan and Record of Decision (ROD) for the Site. Additionally, each final deliverable must be easily incorporated into these decision documents. The Amended Draft RI/FS Deliverables contained numerous formatting and grammatical errors; therefore, the Second Amended Draft WP, FSP, and QAPP must be reviewed in their entirety and corrected for these formatting and grammatical errors before submittal to the EPA. The following discussions clarify the EPA's requirements for the Proposed Plan and ROD.

Paragraph 8 of the AOC states that:

"The activities conducted under this Order are subject to approval by EPA and shall provide all appropriate necessary information for the RI/FS, and for a Record of Decision (ROD) that is consistent with CERCLA and the National Contingency Plan (NCP), 40 C.F.R. 300. The activities conducted under this Order shall be conducted in compliance with all applicable EPA guidance documents, policies, and procedures."

Paragraph 48 of the AOC states that:

"EPA retains the responsibility for the approval and release to the public of the RI/FS Report. EPA retains responsibility for the preparation and release to the public of the Proposed Plan and Record of Decision (ROD) in accordance with CERCLA and the NCP."

The EPA's ROD guidance document entitled, "A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents" (Office of Solid Waste and Emergency Response, EPA 540-R-98-031, July 1999) states that:

"The decision documents addressed by this guidance are the Proposed Plan, the Record of Decision (ROD), Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), requires the issuance of decision documents for remedial actions taken pursuant to Sections 104, 106, 120, and 122. Sections 300.430(f)(2), 300.430(f)(4) and 300.435(c)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establish the regulatory requirements for these decision documents. This guidance document provides additional guidelines and is based upon the Superfund statute and regulations.

.....

A primary purpose of the ROD guidance is to establish a recommended format for Proposed Plans, RODs, Because of the critical role of public participation in the remedy selection process, and the public's reliance on decision documents to understand what the lead government agency proposes and ultimately decides to do, clarity within and consistency across these documents are both important."

K. *References to the Many Diversified Interests, Inc. Superfund Site*

RI/FS documentation pertaining to the Many Diversified Interests, Inc. Superfund Site (hereinafter the "MDI Site"), located in Houston, Texas, is referenced in the EPA's comments concerning NORCO's deliverables. The MDI Site documentation, which is being provided as an example of a federally funded RI/FS for an NPL site, includes deliverables (Attachment B - Many Diversified Interests, Inc. Superfund Site; Houston, Texas; Field Sampling Plan and Quality Assurance Project Plan [on compact disk]) that have been approved by the EPA. Each final MDI RI/FS deliverable was easily incorporated into the Proposed Plan and ROD for the MDI Site and allowed the EPA to meet its statutory and regulatory responsibilities for these decision documents. The MDI deliverables were prepared by the EPA's contractor along with technical direction from the MDI Site's Remedial Project Managers (RPMs). General Comments G (Potentially Responsible Party) and J (Preparation of the Proposed Plan and Record of Decision) provide additional discussions concerning these comments.

L. NORCO's and EPA's Responsibilities Under the AOC - Pertinent Provisions

The AOC for a RI/FS specifies NORCO's and the EPA's responsibilities.

Paragraph 1 of the AOC states that:

"The Order requires that NORCO prepare and perform a Remedial Investigation and Feasibility Study (RI/FS) for the Falcon Refinery Site in San Patricio County, Ingleside, Texas (the "Site")."

Paragraph 3 of the AOC states that:

"NORCO agrees to undertake all actions required by the terms and conditions of this Order."

Paragraph 4 of the AOC states that:

"EPA agrees to suspend the listing of this site on a final NPL and NORCO agrees that EPA will suspend the listing of this site on a final NPL so long as NORCO undertakes the actions equivalent to those required at NPL sites in accordance with the terms and conditions of this Order"

Paragraph 31 of the AOC states that:

"After review of any submission, EPA may: . . . (c) disapprove (in whole or in part) the submission and direct NORCO to resubmit the submission after incorporating EPA's modifications, which may include deletions or additions prepared by EPA, which NORCO must incorporate into the text of the submission ["exactly"] as directed by EPA in writing;"

Paragraph 67 of the AOC states that:

"For each day that NORCO fails to complete a deliverable in a timely manner or fails to produce a deliverable of acceptable quality, or otherwise fails to comply with the requirements of this Order, NORCO will be liable for stipulated penalties as specified in this Section."

The EPA entered into an agreement for the performance of an RI/FS with only NORCO. As the sole respondent and party to the AOC, NORCO is the sole responsible party bound by the

terms of the AOC and is strictly liable under CERCLA. That is, under the terms of the AOC, the EPA has determined that NORCO is responsible for the RI/FS at the Site without proving that NORCO was at fault for the releases or potential releases of hazardous substances, pollutants, or contaminants "at" or "from" the Site.

Because NORCO had agreed to perform the RI/FS in accordance with the AOC, the EPA agreed to suspend the listing of the Site on a final NPL. The EPA may elect to restart the process of listing the Site on the NPL if a Second Amended RI/FS Work Plan, Field Sampling Plan, and Quality Assurance Project Plan are not submitted by NORCO that are acceptable to the EPA and "exactly" as directed by the EPA in writing (see General Comments M [Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan] and N [Major Areas Requiring Revision for NORCO's Second Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan]). Any delays in the performance of the requirements of the AOC may subject NORCO to stipulated penalties for each day of non-compliance.

The EPA's process of identifying PRPs is an ongoing process and must not delay NORCO's performance of the RI/FS for this Site as directed by the EPA. In the event that other PRPs for the Site are identified, NORCO may "seek contribution from any other person who is liable or potentially liable" in accordance with CERCLA §113(f).

M. Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan

The EPA disapproves the Amended Draft WP, FSP, and QAPP because of major deficiencies. These deliverables do not meet the EPA's requirements for well developed plans that can be used to perform the RI/FS, or to support a Baseline Human Health Risk Assessment and a Screening Level and/or an Ecological Risk Assessment for the Site. Additionally, these plans do not reflect the majority of the EPA's written comments dated February 3, 2005, concerning NORCO's Draft WP, FSP, and QAPP; nor the majority of the EPA's written comments dated March 23, 2005 (Addendum to the EPA's 2/03/05 Comments on NORCO's 9/07/04 Draft Deliverables [Attachment H - On Compact Disk]). Moreover, these plans do not consider the EPA's verbal comments provided to NORCO during the initial "scoping meeting" held on July 7, 2004. Other major deficiency areas in the plans include, but are not limited to, NORCO's failure to address the wetland areas that have been and could have possibly been impacted by hazardous substances, pollutants, or contaminants "at" or "from" the Site; NORCO's failure to accept responsibility under the AOC, and NORCO's failure to propose an acceptable sampling plan and strategy for the Site.

The EPA's comments dated February 3 and March 23, 2005, requested that NORCO consult with the EPA prior to their submittal of the Amended Draft WP, FSP, and QAPP.

Another scoping meeting is strongly recommended before NORCO begins the process of revising the deliverables disapproved by the EPA and before submittal of the Second Amended Draft WP, FSP, and QAPP. This scoping meeting will include a comprehensive discussion of the Data Quality Objectives Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP.

N. Major Areas Requiring Revision for NORCO's Second Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan

NORCO's Second Amended Draft WP, FSP, and QAPP must meet the EPA's requirements, under the AOC, for well developed plans that can be used to perform the RI/FS, and to support a Baseline Human Health Risk Assessment and a Screening Level and/or an Ecological Risk Assessment for the Site. Specifically, NORCO is directed to resubmit each deliverable after incorporating the EPA's modifications "exactly" as directed in the comments provided in Enclosure A, as well as the EPA's written comments dated February 3, 2005, concerning NORCO's Draft WP, FSP, and QAPP; and the EPA's written comments dated March 23, 2005 (Addendum to the EPA's 2/03/05 Comments on NORCO's 9/07/04 Draft Deliverables). NORCO should also consider the EPA's verbal comments provided to NORCO during the initial "scoping meeting" held on July 7, 2004. The following discussion explains additional areas requiring revision for NORCO's second amended draft deliverables.

Statements That Are Not Relevant to this Investigation

The Second Amended Draft WP, FSP, and QAPP must exclude statements that are not relevant to this investigation, such as statements that appear to discredit historical information about the Site, question the local citizens' concerns about contamination "at" or "from" the Site, and discredit the EPA's interviews with local residents. These statements do not relieve NORCO of their responsibility as a PRP to address all contamination "at" or "from" the Site.

Scoping Meeting and DQO Process

The EPA's Remedial Project Manager and NORCO's Project Manager will coordinate the date, location, and time for the scoping meeting(s) prior to submittal of NORCO's Second Amended Draft WP, FSP, and QAPP. The scoping meeting will include a comprehensive discussion of the DQO Process.

Field Sampling Plan

The Second Amended Draft FSP shall include a well developed field sampling plan that can be used to perform the RI/FS for the Site, as defined by the EPA, and support a Baseline Human Health Risk Assessment and a Screening Level and/or an Ecological Risk Assessment for

the Site. The Second Amended Draft WP and QAPP shall reflect the sampling plan requirements of the Second Amended Draft FSP. The Second Amended Draft FSP shall include the sampling strategy for the North and South Site; select residential areas located immediately adjacent to the facility; the wetland areas located south, southeast, and east of the facility (including the wetland areas located north of Sunray Road); the historical and current docking facilities on Redfish Bay; the entire length of the pipelines leading from the North Site to the historical and current docking facilities; and the historical wastewater discharge outfall point into Corpus Christi Bay (if constructed).

A well developed field sampling plan will limit the possibilities of making decision errors. For example, the EPA does not desire to abandon a contaminated site nor clean up a clean site. Since little information exists on the distribution of chemical risk drivers for the Site, the sampling strategy may have to be carried out in two phases. Ideally, Phase I would determine the distribution of the risk drivers for the Site. The standard deviation, alpha and beta error rates, the width of the gray region, and a threshold value (screening value) can then be used in Phase II as input into Visual Sample Plan software for the calculation of the minimum number of samples required to statistically determine if the mean value of each site contaminant exceeds the respective screening level or threshold value. Attachment G (Example "Visual Sample Plan" Probabilistic Sampling Design) provides an example of a probabilistic sampling design that could be derived from the implementation of the 7-step DQO Process.

Background Data

NORCO shall determine whether the background data from the HRS is suitable for the RI/FS for this Site. These procedures are described in the EPA's guidance documents entitled; "Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Waste Sites" (Office of Solid Waste and Emergency Response, EPA/540/5-96/500, December 1995); and "Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites" (EPA 540-R-01-003, 2002). NORCO shall continue discussions with the EPA concerning the collection of background data during the recommended scoping meeting.

Applicable or Relevant and Appropriate Requirements

NORCO's second amended draft deliverables shall include a discussion and preliminary list of the probable "Applicable or Relevant and Appropriate Requirements" (ARARs) for the Site. This list shall be compiled according to established EPA guidance, research of existing regulations, and collection of site-specific information and data. Three types of ARARs will be identified (if applicable for the Site):

- 1) Chemical-Specific ARARs: These ARARs are usually health- or risk-based numerical values or methodologies used to determine acceptable concentrations of

chemicals that may be found in or discharged to the environment (e.g., maximum contaminant levels that establish safe levels in drinking water).

2) Location-Specific ARARs: These ARARs restrict actions or contaminant concentrations in certain environmentally sensitive areas. Examples of areas regulated under various Federal laws include floodplains, wetlands, and locations where endangered species or historically significant cultural resources are present.

3) Action-Specific ARARs: These ARARs are usually technology- or activity-based requirements or limitations on actions or conditions involving specific substances.

Chemical- and location-specific ARARs are identified early in the process, generally during the site investigation, while action-specific ARARs are usually identified during the Feasibility Study in the detailed analysis of alternatives.

Designation of AOCs and Rationale

NORCO shall continue discussions with the EPA concerning the designation of each of the Areas of Concern referenced in the amended draft deliverables, including the rationale for these designations, during the recommended scoping meeting. Use of the term "operable units" shall also be discussed since this term is commonly used in the Superfund program. This term is defined in the EPA's General Comment F (Designation of Operable Units).

Map and Expedited Schedule for Addressing NORCO's On- and Off-Site Pipelines

The Second Amended Draft WP, FSP, and QAPP shall include a map, which includes ownership, of the on- and off-site pipelines leading from the "North Site" to the historical and current docking facilities. The amended deliverables shall also include an expedited schedule for addressing NORCO's on- and off-site pipelines.

The EPA agreed, during discussions with NORCO and the State and Federal Natural Resource Trustees, that any sampling of the wetland areas could reasonably be delayed until the abandoned pipelines had been flushed of their contents, grouted in place, and/or removed. NORCO must address these pipelines in order to avoid any additional delays in the performance of this RI/FS. NORCO shall also continue discussions with the EPA concerning the pipelines that will remain in place for current and future use.

References to the Hazard Ranking System Documentation Record Analytical Data

The Second Amended Draft WP, FSP, and QAPP shall exclude statements concerning

the Hazard Ranking System Documentation Record analytical data that appear to make a final determination concerning the risks associated with the Site and the extent of contamination at the Site. This includes statements concerning the comparisons of the HRS analytical data to State Protective Concentration Levels (PCLs) in the discussion of the known source areas identified in the HRS Documentation Record and other on- and off-site areas of the Site. Any impacts to the soil, sediment, ground water, and surface water from hazardous substances, pollutants, or contaminants will be determined during the RI/FS for the Site. Preliminary Remediation Goals (PRGs; i.e., Region 6 Medium-Specific Screening Levels [MSSLs], Ecological Screening Levels, and Applicable or Relevant and Appropriate Requirements [ARARs]) will be established during the scoping meeting(s) for the RI/FS. These risk-based screening levels, which will be used to develop the Second Amended Draft FSP and QAPP for this Site, may or may not be more stringent than the State's PCLs. Additionally, the analytical detection limits utilized in the HRS may have exceeded human health or ecological screening levels and would not be suitable for this RI/FS.

Figures

The Second Amended Draft WP, FSP, and QAPP shall include legible figures, even in electronic format. The text of the titles and legends of each figure shall be consistent and present information that is relevant to this RI/FS. The paper copies of each figure will need to be enlarged such that the relevant information of each figure can be easily viewed and interpreted.

Tables

The Second Amended Draft WP, FSP, and QAPP shall include legible tables, even in electronic format. The text of each table shall be consistent with the information presented in each amended draft deliverable.

References

The references in the text and in the references section of the Second Amended Draft WP, FSP, and QAPP shall be revised into a format in which they can be easily cross-referenced. Perhaps the text could refer to the Reference Number identified in the references sections of each amended draft deliverable; or alternatively, the references section could be alphabetized by author or agency for ease of reference. Additionally, the text and the references section of each second amended draft deliverable shall be reviewed for consistency. Any references not included in the text of an amended draft deliverable shall be excluded from the references section of the respective deliverable. The Second Amended Draft WP, FSP, and QAPP shall accurately reflect all references throughout their entirety.

Abbreviations and Acronyms

Any abbreviations or acronyms that are not included in the text of the Second Amended Draft WP and QAPP shall be removed from the acronym list of the respective "table of contents." Additionally, the "table of contents" of the Second Amended Draft FSP shall include a list of the abbreviations or acronyms used in the text of the deliverable.

Deliverable-Specific Comments
Amended Draft Remedial Investigation and Feasibility Study
Work Plan

The following "Deliverable-Specific Comments" pertain to the EPA's comments on the Amended Draft WP. The deliverable-specific comments are listed numerically by the sections, pages, and paragraphs corresponding to the Amended Draft WP required pursuant to the AOC. A paragraph number corresponds to the sequence of a paragraph within a section.

1. Section 2.0 - Site Background and Setting (Page 2, 2nd Paragraph)

Amended Draft Work Plan

This section of the Amended Draft WP states that:

"Other portions of the Site include piping leading from the Site (North and South) to dock facilities at Redfish Bay, where crude oil and hydrocarbons were historically and are currently transferred between barges and storage tanks, and any other area where contamination attributed to the site has come to be located."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"Other portions of the Site include piping leading from the Site (North and South) to dock facilities at Redfish Bay, where crude oil and hydrocarbons were historically and are currently transferred between barges and storage tanks, where vinyl acetate was historically transferred and may be stored, and any other area where contamination attributed to the Site has come to be located."

General Comments A (Key Definitions), B (Facility [Site] Boundaries), G (Potentially Responsible Party), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), J (Preparation of the Proposed Plan and Record of Decision), and L (NORCO's

and EPA's Responsibilities Under the AOC for a RI/FS) provide the EPA's discussions concerning these comments.

2. *Section 2.1 - Site History (Pages 2 and 3, 1st and 5th Paragraphs, respectively)*

Amended Draft Work Plan

This section of the Amended Draft WP provides a brief history of the Site, identifies Figure 2 (Overall Site Map), and states that:

"NORCO never operated the facility or spilled any materials."

EPA's Comments

The title within the legend of Figure 2 of the Second Amended Draft WP shall be labeled correctly as "Overall Site Map," and shall depict FM 2725, Bishop Road, Bay Avenue, and Sunray Road. The legend of Figure 2 shall be enlarged. Also, this figure shall identify the North and South Sites; the residential areas located immediately adjacent to the facility; the industries or commercial entities located in the general vicinity of the facility; the wetland areas located south, southeast, and east of the facility (including the wetland areas located north of Sunray Road); the historical and current docking facilities on Redfish Bay; the entire length of the pipelines leading from the North Site to the historical and current docking facilities; and the historical wastewater discharge outfall point into Corpus Christi Bay (recent conversations with NORCO's project manager indicate that an outfall point may not have ever been constructed and that the effluent from the refinery's water treatment system was probably disposed of into the wetland area adjacent to the facility). A larger "paper size" may be needed to include all of this information legibly. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

NORCO shall continue discussions with the EPA concerning the designation of each of the Areas of Concern referenced in the amended draft deliverables and Figure 2, including the rationale for these designations, during the recommended scoping meeting. Use of the term "operable units" shall also be discussed since this term is commonly used in the Superfund program. General Comment F (Designation of Operable Units) provides the EPA's discussions concerning these comments.

The statement in the Amended Draft WP that NORCO never operated the facility or spilled any materials shall be excluded from the Second Amended Draft WP. Although Paragraph 12 of the AOC states that, "The Respondent never operated the refinery," this

statement does not relieve NORCO of its responsibility as a PRP to address all contamination "at" or "from" the Site. This statement has no relevance to this investigation and NORCO's responsibility, under the AOC, to investigate the Site. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments A (Key Definitions ["Potentially Responsible Party"]), G (Potentially Responsible Party), and L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS) provide the EPA's discussions concerning these comments.

3. *Section 2.2.1 - Site Physical Characteristics (Pages 3 and 4; 3rd, 4th, and 6th Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP identifies Figure 4 (South Site Map) and states that:

"There is a half buried concrete tank on the North Site that does not appear on site plans.

.....

Storm water and process water were sent to storage tanks that had API separators that removed any residual oil and sent the oil to a slop tank. The water was treated by a dissolved air flotation chamber and then flowed into the aeration pond. Sludge was then removed in the clarifier and the water was passed through a 6-inch pipeline to an outlet in Corpus Christi Bay, near the former Sunoco Terminal. The discharge was covered under Permit 02142 until the NPDES permit was received."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"There is a half buried concrete tank on the North Site that does not appear on site plans. It appears that used motor oil was poured around this tank."

This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning this comment.

The EPA's recent discussions with NORCO's Project Manager indicate that a discharge pipeline may not have ever been constructed to the outfall discharge point and any effluent from the refinery's wastewater treatment system may have been historically discharged directly into the wetland area immediately adjacent to the Site. If this is the case, Figure 4 (South Site Map) of the Second Amended Draft WP shall be revised to exclude the text "Discharge Pump to Corpus Christi Bay." Additionally, the Amended Draft WP shall be revised to state that:

"Storm water and process water were sent to storage tanks that had API separators that removed any residual oil and sent the oil to a slop tank. The water was treated by a dissolved air flotation chamber and then flowed into the aeration pond. Sludge was then removed in the clarifier and it is believed that any effluent from the refinery's wastewater treatment system may have been historically discharged directly into the unpermitted wetland area immediately adjacent to the Site since a discharge pipeline may have never been constructed to the outfall discharge point."

General Comments A (Key Definitions), B (Facility [Site] Boundaries), G (Potentially Responsible Party), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

4. ***Section 2.2.1.4 - Surface Water Hydrology (Pages 5 and 6; 2nd, 4th, 5th, 6th, and 7th Paragraphs)***

Amended Draft Work Plan

The Amended Draft WP states that:

"Mr. Doug Standifer, a former consultant for the Falcon Refinery indicated that he had authorized the submittal of a permit for an NPDES discharge permit. However the permit was never used."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"Mr. Doug Standifer, a former consultant for the Falcon Refinery indicated that he had authorized the submittal of a permit for an NPDES discharge permit. However the permit was never used and the discharge pipeline may have never

been constructed to the outfall point. It is believed that the wastewater treatment effluent may have been directly discharged into the unpermitted wetland area immediately adjacent to the Site."

General Comments B (Facility [Site] Boundaries), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

Amended Draft Work Plan

The Amended Draft WP identifies Figures 6a (Surface Water PPE 1, 2 and 3), 6b (Surface Water PPE), and 6c (Water Intakes Within TDL) and states that:

"NORCO recognizes that the following section, which is taken from the HRS, was developed for the HRS however the description is factual and pertinent to the work plan."

EPA's Comments

Paragraph 14 of the RI/FS SOW states that:

"The Respondent shall gather existing information regarding . . . hydrology . . . of the Site."

The EPA agrees that the 5th paragraph describing the Site and the surface water hydrology in the "general" vicinity of the Site is factual and pertinent to this RI/FS. However, the last sentence of the paragraph which discusses the 15-mile Target Distance Limit shall be excluded from the Second Amended Draft WP. Additionally, the Second Amended Draft WP shall exclude the remainder of the section (the 6th and 7th paragraphs; including Figures 6a, 6b, and 6c) which discusses the information on surface water hydrology taken directly from the Expanded Site Inspection Work Plan, which is relevant to the HRS Documentation Record for the Site. The information included in the Amended Draft WP covers a much wider area than the area which will be investigated during this RI/FS and is therefore not relevant to this investigation. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments C (Hazard Ranking System Documentation Record) and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

5. *Section 2.2.1.6 - Human Population and Land Use (Page 6, 2nd Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"A one-mile radius water well search was performed and the report is provided in Appendix A. Information in the water well search indicated that there are two registered water wells on Thayer Road, which is adjacent to the refinery. In addition to the reported water well search representatives of NORCO conducted a door to door water well search (Figure 8). State of Texas Water Well Reports indicate that two of the water wells on Thayer Road are screened in a sand at a depth of 40 to 45 feet below land surface."

EPA's Comments

Paragraph 14 of the RI/FS SOW states that:

"The Respondent shall gather existing information regarding geology, hydrogeology . . . of the Site.

.....

The Respondent shall gather existing data which identifies and locates residential, municipal, or industrial wells on and near the Site. The Respondent shall gather existing data which identifies surface water uses for areas surrounding the Site including, but not limited to, downstream of the Site."

The map entitled, "Map of Wells Within One Mile," included in Appendix A (One Mile Water Well Search), shall be revised to state that the numbers provided in the map, identifying wells or well clusters, correspond to the Map ID numbers included in the "Water Well Report" of Appendix A. The EPA, during community interviews, determined the existence of two (2) water wells, relatively adjacent to the Site, that are not depicted in Figure 8 (Area Water Well Search Map) nor Appendix A (One Mile Water Well Search). These domestic water wells are located at 1233 and 1269 Bishop Road. Figure 8 shall depict the location of these water wells and the Second Amended Draft WP shall include any available drilling and completion information. Figure 8 shall identify "NTS" as "Not to Scale" and shall also depict the approximate locations of each of the water wells identified in the figure. Several of these comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General

Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments. Attachment A (Documentation of Hazardous Substances and Contaminant Releases to the Environment [on compact disk], [Reference I - Monthly Report of the EPA's Activities Concerning the CIP, 10/19/04]) provides additional information concerning these comments.

6. *Section 2.2.1.6 - Human Population and Land Use (Pages 6 and 7; 3rd, 4th, and 5th Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP includes a summary of the EPA's interviews conducted on 10/19/04 with local residents. This summary is included as Attachment A (Documentation of Hazardous Substances and Contaminant Releases to the Environment [on compact disk], [Reference I - Monthly Report of the EPA's Activities Concerning the CIP, 10/19/04]). The Amended Draft WP also includes NORCO's interviews with these same individuals.

EPA's Comments

The EPA's summary of community interviews is more appropriate in Section 5.4 (Community Relations) of the Second Amended Draft WP. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

Amended Draft Work Plan

The Amended Draft WP states that:

"During follow up interviews NORCO representatives met with Ms. Shedd and Mr. Salinas, and important information was revealed. The spill of an oily substance into her yard has been incorrectly reported in the document record (Reference 10) and by the EPA interview. The oily spill was in fact caused by a pipeline owned by ARM Refining (ARM) (now Plains Marketing) and the spill was not on her yard but in the wetlands over 500 feet from her yard. NORCO has alerted the EPA of this error and is waiting on the responsible party to provide additional information concerning the spill. NORCO is delaying the sampling of the wetlands until the ARM spill is resolved.

NORCO representatives interviewed Mr. Salinas about the sheen that was discussed at the community meeting and is mentioned in the EPA interview. During the interview Mr. Salinas stated that the cause of the sheen was Plains

Marketing pumping contaminated water from around their tanks into the ditch and onto the NORCO property. NORCO has alerted the EPA and TCEQ about the unauthorized discharge."

EPA's Comments

These statements shall be excluded from the Second Amended Draft WP. These statements appear to discredit historical information about the Site, question the local citizens' concerns about contamination "at" or "from" the Site, and discredit the EPA's interviews with local residents. These statements do not relieve NORCO of their responsibility as a PRP to address all contamination "at" or "from" the Site. These statements have no relevance to this investigation and NORCO's responsibility, under the AOC for a RI/FS, to investigate the Site. Any statements concerning the "ARM spill" shall be limited to the 1985 historical information and the EPA's information included in Attachment A (Documentation of Hazardous Substances and Contaminant Releases to the Environment [on compact disk], [Reference I - Monthly Report of the EPA's Activities Concerning the CIP, 10/19/04]).

The EPA entered into an agreement for the performance of an RI/FS with only NORCO. As the sole respondent and party to the AOC, NORCO is the sole responsible party bound by the terms of the AOC and is strictly liable under CERCLA. That is, under the terms of the AOC, the EPA has determined that NORCO is responsible for the RI/FS at the Site without proving that NORCO was at fault for the releases or potential releases of hazardous substances, pollutants, or contaminants "at" or "from" the Site. The EPA's process of identifying PRPs is an ongoing process and will not delay the performance of the RI/FS for this Site as directed by the EPA. In the event that other PRPs for the Site are identified, NORCO may "seek contribution from any other person who is liable or potentially liable" in accordance with CERCLA §113(f).

The EPA strongly encourages that NORCO representatives participate in another scoping meeting before NORCO begins the process of revising the deliverables disapproved by the EPA and before submittal of the Second Amended Draft WP, FSP, and QAPP. This scoping meeting will include a comprehensive discussion of the DQO Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP.

General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), G (Potentially Responsible Party), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

7. *Section 2.2.1.7 - Endangered and Threatened Species (Page 7, 1st and 2nd Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP states that:

"NORCO recognizes that the following section, which is taken from the HRS, was developed for the HRS however the description is factual and pertinent to this work plan.

During the development of the Hazardous Ranking System Documentation Record (HRS) for the Falcon Refinery the Texas Natural Resources Conservation Commission (TNRCC) conducted a sediment sampling program to determine if the wetlands adjacent to the facility had been impacted."

EPA's Comments

These statements concerning the HRS and the conduct of the HRS sediment sampling program to determine impacts to the adjacent wetlands shall be excluded from the Second Amended Draft WP. Any impacts to the sediments and wetlands located to the south, southeast, and east of the facility will be determined during the RI/FS for the Site. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

8. *Section 2.2.1.7 - Endangered and Threatened Species (Page 7, 3rd Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

The area in and around the refinery and the adjacent wetlands is a known habitat for Federal and State designated endangered or threatened species (Ref. 78, p. 1). An inquiry through the TPWD Biological and Conservation Data System and a site visit from Mr. Beau Hardegree of the TPWD Lower Coast Conservation Assessment Program, indicated the following endangered and threatened species in the vicinity of the wetland areas adjacent to the site"

EPA's Comments

NORCO will be required to obtain current endangered and threatened species lists from both the Texas Parks and Wildlife Department and the U.S. Fish and Wildlife Service. In order to rule out the presence or absence of endangered or threatened species on the Site, a qualified ecologist must present evidence that associated habitat is not present at or near the Site. Simply relaying on the data from the HRS Documentation Record or from a single day's survey to determine only presence/absence will not be enough evidence to rule out utilization by mobile receptors. General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

9. *Section 2.2.1.7 - Endangered and Threatened Species (Page 8, 4th Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"The 15-mile in-water segment of the Surface Water Pathway extends into the Redfish Bay (designated also as Corpus Christi Bay), Corpus Christi Bay, and Aransas Bay."

EPA's Comments

This sentence shall be excluded from the Second Amended Draft WP since it is relevant to the HRS Documentation Record. This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments C (Hazard Record System Documentation Record) and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

10. *Section 2.2.2 - Definition of Sources of Contamination (Page 8, 1st and 2nd Paragraphs)*

Amended Draft Work Plan

This section of the Amended Draft WP states that:

"The following section descriptions were taken from the HRS and were augmented with additional data. Impacts from these releases and others described in the TCEQ project file will be described in subsequent sections based on the medium of impact.

The extent of any of the following releases has not been determined."

EPA's Comments

This section of the Second Amended Draft WP shall be combined with Section 2.2.3 (Nature and Extent of Contamination) to provide consistency with the other sections of the Second Amended Draft WP. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

11. Section 2.2.3 - Nature and Extent of Contamination (Pages 8 through 12, 2nd thru 25th Paragraphs)

Amended Draft Work Plan

Section 2.2.3 (Nature and Extent of Contamination) of the Amended Draft WP discusses the nature and extent of known releases of hazardous substances, pollutants, or contaminants to both soils and sediments.

EPA's Comments

This section of the Second Amended Draft WP needs to be organized in a manner that is consistent with the titles of the appropriate sections and subsections of the Second Amended Draft WP. The 2nd through 25th paragraphs of this section shall be reorganized in the Second Amended Draft WP, and incorporated into Sections 2.2.3.1 (Ground Water), 2.2.3.2 (Soil), 2.2.3.3 (Surface Water), 2.2.3.4 (Sediments), and 2.2.3.5 (Air) as appropriate. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

12. Section 2.2.3 - Nature and Extent of Contamination (Page 8, 1st Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"Some of the releases are not associated with the Falcon Refinery."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"Some of the releases are not associated with the Falcon Refinery, but these releases may have possibly impacted the Site."

General Comments G (Potentially Responsible Party), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), J (Preparation of the Proposed Plan and Record of Decision), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

13. Section 2.2.3 - Nature and Extent of Contamination (Page 8, 3rd Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"After NORCO received the comments to the first draft of the RI/FS Workplan and the Field Sampling Plan, a review of the project information revealed that there had been a major release into the wetlands in 1985, from a pipeline not owned by NORCO or any of its predecessors."

EPA's Comments

This statement shall be excluded from the Second Amended Draft WP. This information is not new information. The 1985 release is already documented in the historical record for the Site. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

14. Section 2.2.3 - Nature and Extent of Contamination (Pages 8 and 9, 4th Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"Page 005 of Reference 10 (HRS) indicates that Brenda Shedd's (home owner that lives adjacent to the refinery) son fell into an oil filled sink hole. The reference states that the source of the sinkhole was a pipeline spill from the Falcon Refinery. Recently, representatives of NORCO interviewed Mrs. Shedd and her son about the oil filled sink hole that the boy fell into. During the discussion the location of the former sink hole was shown and it was discovered that the pipeline that caused the spill was not and had never been associated with the Falcon Refinery. In fact, the current owner of the pipeline is Plains Marketing, which loads and unloads product from a docking facility and transfers the material to and from their facility on Hwy 2725 through the pipeline."

EPA's Comments

These statements shall be excluded from the Second Amended Draft WP. These statements appear to discredit historical information about the Site, question the local citizens' concerns about contamination "at" or "from" the Site, and discredit the EPA's interviews with local residents. These statements do not relieve NORCO of their responsibility as a PRP to address all contamination "at" or "from" the Site. These statements have no relevance to this investigation and NORCO's responsibility, under the AOC for a RI/FS, to investigate the Site. Any statements concerning the "ARM spill" shall be limited to the 1985 historical information and the EPA's information included in Attachment A (Documentation of Hazardous Substances and Contaminant Releases to the Environment [on compact disk], [Reference I - Monthly Report of the EPA's Activities Concerning the CIP, 10/19/04]).

The EPA entered into an agreement for the performance of an RI/FS with only NORCO. As the sole respondent and party to the AOC, NORCO is the sole responsible party bound by the terms of the AOC and is strictly liable under CERCLA. That is, under the terms of the AOC, the EPA has determined that NORCO is responsible for the RI/FS at the Site without proving that NORCO was at fault for the releases or potential releases of hazardous substances, pollutants, or contaminants "at" or "from" the Site. The EPA's process of identifying PRPs is an ongoing process and will not delay the performance of the RI/FS for this Site as directed by the EPA. In the event that other PRPs for the Site are identified, NORCO may "seek contribution from any other person who is liable or potentially liable" in accordance with CERCLA §113(f).

The EPA strongly encourages that NORCO representatives participate in another scoping meeting before NORCO begins the process of revising the deliverables disapproved by the EPA and before submittal of the Second Amended Draft WP, FSP, and QAPP. This scoping meeting will include a comprehensive discussion of the DQO Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP.

General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), G (Potentially Responsible Party), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

15. *Section 2.2.3 - Nature and Extent of Contamination (Page 10, 9th Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"Note; the HRS Record is incorrect with respect to the date that the sample was obtained. The actual date was January 13, 1986, based on the TACB report that is labeled Reference 11 in the HRS."

EPA's Comments

This statement concerning the date of the sample is correct; however, it shall be excluded from the Second Amended Draft WP since it has no relevance to this investigation and NORCO's responsibility, under the AOC for a RI/FS, to investigate the Site. This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments C (Hazard Ranking System Documentation Record) and G (Potentially Responsible Party) provide the EPA's discussions concerning these comments.

16. *Section 2.2.3 - Nature and Extent of Contamination (Pages 10 and 11, 13th Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"On April 4, 1996, Jones & Neuse conducted grid sampling at the spill site. The samples were analyzed for benzene, toluene, ethyl benzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH). No BTEX content was detected in the soil samples taken, but TPH levels were detected ranging from 67 to 1930 mg/kg."

EPA's Comments

Paragraph 14 of the RI/FS SOW states that:

"The Respondent shall compile existing data which resulted from any previous sampling events that may have been conducted on and near the Site. The Respondent shall gather existing data which describes previous responses that have been conducted on and near the Site by local, state, federal, or private parties."

The Amended Draft WP shall be revised to state that:

"On April 4, 1996, Jones & Neuse conducted grid sampling at the spill site. The samples were analyzed for benzene, toluene, ethyl benzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH). No BTEX content was detected in the soil samples taken, but TPH levels were detected ranging from 67 to 1930 mg/kg. Analyses for other hazardous substances, pollutants, or contaminants were not performed even though other chemicals, not naturally occurring in crude oil, were spilled during the event."

The Second Amended Draft WP shall include a detailed discussion, including the available documentation, of the historical sampling event conducted in April 1996. An area map shall also depict the location of the sampling area. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments A (Key Definitions, [Hazardous Substance], [Pollutant or Contaminant]) and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

17. Section 2.2.3 - Nature and Extent of Contamination (Page 11, 16th Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"It should be noted that NORCO did not own, operate or have any relationship with Gulf Conservation Corporation (GCC) at any time. Trucks delivered the liquid described in the previous paragraph from (GCC) to the Falcon Refinery pursuant to permission given by the MJP Resources, Inc. president."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"It should be noted that NORCO did not own, operate or have any relationship with Gulf Conservation Corporation (GCC) at any time. Trucks delivered the liquid described in the previous paragraph from GCC to the Falcon Refinery pursuant to permission given by the MJP Resources, Inc. President, a previous lessee of the Falcon Refinery."

These statements in the Amended Draft WP do not relieve NORCO of their responsibility as a PRP to address all contamination "at" or "from" the Site. These statements have no relevance to this investigation and NORCO's responsibility, under the AOC for a RI/FS, to investigate the Site. General Comments A (Key Definitions), B (Facility [Site] Boundaries), G (Potentially Responsible Party), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), J (Preparation of the Proposed Plan and Record of Decision), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

18. Section 2.2.3 - Nature and Extent of Contamination (Page 12, 20th Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"On April 4, 2002, there was a spill of approximately 20 gallons of crude oil on property owned by Offshore Specialty Fabricators (Reference C on the CD provided by the EPA describing spills). The spill was in the wetlands north of Sunray Road."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"On April 4, 2002, there was a spill of approximately 20 gallons of crude oil on property owned by Offshore Specialty Fabricators (Reference C [Railroad Commission of Texas, Inspection Report, Initial Report dated 4/05/02] on the CD provided by the EPA describing spills). The spill was in the wetlands north of

Sunray Road. On July 22, 1992, the Texas Natural Resource Conservation Commission (now the Texas Commission on Environmental Quality) issued a letter to Mr. Dickey Henderson (Offshore Specialty Fabricators, Inc.) which indicated that the apparent cause of the release is a series of abandoned pipelines on Offshore Specialty's property. A Railroad Commission of Texas (RRC) report dated April 4, 2002, states that employees dug a hole approximately twelve (12) feet deep and found no clean sand. Samples of the liquids present at the spill site, taken by the RRC on April 15, 2002, were analyzed and revealed the presence of vinyl acetate. A RRC report dated April 16, 2002, states that additional seepage was found from suspected unknown pipelines approximately 10 feet from the water of the salt marsh on the north end of Sunray Road. According to the RRC report, the lines were suspected to be UNI (a previous owner of Falcon Refinery) lines."

Reference C (Railroad Commission of Texas, Inspection Report, Initial Report dated 4/05/02) of the EPA's comments on the Draft WP dated September 7, 2004, shall be included in the reference section of the Second Amended Draft WP. General Comments A (Key Definitions), B (Facility [Site] Boundaries), G (Potentially Responsible Party), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), J (Preparation of the Proposed Plan and Record of Decision), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

19. *Section 2.2.3 - Nature and Extent of Contamination (Page 12, 24th Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"Mr. Salinas stated that Plains Marketing was pumping contaminated water into the ditches and onto NORCO property."

EPA's Comments

This statement shall be excluded from the Second Amended Draft WP. This statement does not relieve NORCO of their responsibility as a PRP to address all contamination "at" or "from" the Site. These statements have no relevance to this investigation and NORCO's responsibility, under the AOC for a RI/FS, to investigate the Site.

The EPA entered into an agreement for the performance of an RI/FS with only NORCO. As the sole respondent and party to the AOC, NORCO is the sole responsible party bound by the terms of the AOC and is strictly liable under CERCLA. That is, under the terms of the AOC, the EPA has determined that NORCO is responsible for the RI/FS at the Site without proving that NORCO was at fault for the releases or potential releases of hazardous substances, pollutants, or contaminants "at" or "from" the Site. The EPA's process of identifying PRPs is an ongoing process and will not delay the performance of the RI/FS for this Site as directed by the EPA. In the event that other PRPs for the Site are identified, NORCO may "seek contribution from any other person who is liable or potentially liable" in accordance with CERCLA §113(f).

The EPA strongly encourages that NORCO representatives participate in another scoping meeting before NORCO begins the process of revising the deliverables disapproved by the EPA and before submittal of the Second Amended Draft WP, FSP, and QAPP. This scoping meeting will include a comprehensive discussion of the DQO Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP.

General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), G (Potentially Responsible Party), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), J (Preparation of the Proposed Plan and Record of Decision), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

20. *Section 2.2.3.1 - Ground Water (Page 13, 4th Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"Adjacent to the northern property boundary of the storage and truck loading property, the Plains Marketing site is in the TCEQ Voluntary Cleanup Program (VCP). Previous investigations have revealed that soil and ground water are impacted at the site."

EPA's Comments

Paragraph 14 of the RI/FS SOW states that:

"The Respondent shall compile existing data which resulted from any previous sampling events that may have been conducted on and near the Site. The Respondent shall gather existing data which describes previous responses that have been conducted on and near the Site by local, state, federal, or private parties."

The Second Amended Draft WP shall include a detailed discussion of the historical and current status of Plains Marketing's (PM) Voluntary Cleanup Program (VCP), including the associated documentation and monitoring well completion information. This discussion shall also include the activities conducted by entities prior to PM. The purpose of this detailed discussion is to determine the possible impact the ground water contamination at PM may have on this RI/FS. This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. The TCEQ's contact person for PM's VCP is Mr. Stu Goldsmith. He can be reached at 512-239-2960.

21: *Section 2.2.3.1 - Ground Water (Page 13, 5th Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"The EPA and TCEQ are investigating the lack of response to the portion of Plains facility that has known contamination and is not in the VCP program."

EPA's Comments

This statement of the Amended Draft WP shall be excluded from the Second Amended Draft WP since it has no relevance to this investigation and NORCO's responsibility, under the AOC for a RI/FS, to investigate the Site. Any impacts to the ground water at the Site, from on- or off-site sources, will be determined during the RI/FS for the Site.

The EPA entered into an agreement for the performance of an RI/FS with only NORCO. As the sole respondent and party to the AOC, NORCO is the sole responsible party bound by the terms of the AOC and is strictly liable under CERCLA. That is, under the terms of the AOC, the EPA has determined that NORCO is responsible for the RI/FS at the Site without proving that

NORCO was at fault for the releases or potential releases of hazardous substances, pollutants, or contaminants "at" or "from" the Site. The EPA's process of identifying PRPs is an ongoing process and will not delay the performance of the RI/FS for this Site as directed by the EPA. In the event that other PRPs for the Site are identified, NORCO may "seek contribution from any other person who is liable or potentially liable" in accordance with CERCLA §113(f).

The EPA strongly encourages that NORCO representatives participate in another scoping meeting before NORCO begins the process of revising the deliverables disapproved by the EPA and before submittal of the Second Amended Draft WP, FSP, and QAPP. This scoping meeting will include a comprehensive discussion of the DQO Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP.

General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), G (Potentially Responsible Party), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), J (Preparation of the Proposed Plan and Record of Decision), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

22. *Section 2.2.3.2 - Soil (Page 13, 2nd and 5th Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP identifies Figures 9 (1979 Spill Map) and 10 (1982 Waste Pile Location Map).

EPA's Comments

Figures 9 and 10 of the Amended Draft WP shall be revised to depict "FM 2725," "Bishop Road," the "North Site," and the "South Site." The legends of Figure 9 and 10 shall be consistently entitled, "1979 Spill Map" and "1982 Waste Pile Location Map," respectively. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

23. *Section 2.2.3.2 - Soil (Page 14, 6th Paragraph)*

Amended Draft Work Plan

The Amended Draft WP identifies Figure 11 (1986 Spill Map).

EPA's Comments

Figure 11 of the Amended Draft WP shall be revised to depict "FM 2725," "Bishop Road," the "North Site," and the "South Site." The legend of Figure 11 shall be consistently entitled, "1986 Spill Map." General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

24. Section 2.2.3.2 - Soil (Page 14, 13th Paragraph)

Amended Draft Work Plan

The Amended Draft WP identifies Figure 12 (Pipeline Grid Sampling Map) and states that:

"On April 4, 1996, Jones & Neuse conducted grid sampling at the spill site (Figure 12). The samples were analyzed for benzene, toluene, ethyl benzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH). No BTEX content was detected in the soil samples taken, but TPH levels were detected ranging from 67 to 1930 mg/kg. The TNRCC limited sampling parameters to BTEX and TPH to obtain closure for the site. Closure was ultimately granted based on no visible evidence of spilled material."

EPA's Comments

Paragraph 14 of the RI/FS SOW states that:

"The Respondent shall compile existing data which resulted from any previous sampling events that may have been conducted on and near the Site. The Respondent shall gather existing data which describes previous responses that have been conducted on and near the Site by local, state, federal, or private parties."

The Amended Draft WP shall be revised to state that:

"On April 4, 1996, Jones & Neuse conducted grid sampling at the spill site (Figure 12, Pipeline Spill Grid Sampling). The samples were analyzed for benzene, toluene, ethyl benzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH). No BTEX content was detected in the soil samples taken, but TPH levels were detected ranging from 67 to 1930 mg/kg. The TNRCC

limited sampling parameters to BTEX and TPH to obtain closure for the site. Closure was ultimately granted based on no visible evidence of spilled material. Analyses for other hazardous substances, pollutants, or contaminants were not performed even though other chemicals, not naturally occurring in crude oil, were spilled during the event."

The Second Amended Draft WP shall include a detailed discussion, including the available documentation, of the historical sampling event conducted in April 1996. An area map (e.g., Figure 12) shall also depict the location of the sampling area. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments A (Key Definitions, [Hazardous Substance], [Pollutant or Contaminant]) and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

25. *Section 2.2.3.2 - Soil (Page 15, 15th and 16th Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP states that:

"Soil samples collected for source identification, including background samples, will be used to characterize soils and to assess the potential migration of contaminated soils. In addition, soil samples will be collected to determine the natural occurring background levels of inorganics (metals), organics (volatiles, semi-volatiles, PCBs and pesticides), and soil pH in an unaffected off-site location.

For the HRS twenty-nine (29) soil samples, SO-02 through SO-05, SO-07 through SO-19, SO-22 through SO-33 were collected on-site for source characterization and attribution. Four samples, SO-08, SO-23, SO-25, and SO-32, were designated as duplicates. Four (4) background soil samples, SO-01, SO-06, SO-20, and SO-21, were collected for attribution of contaminants to the site."

EPA's Comments

These paragraphs shall be excluded from the Second Amended Draft WP and replaced with:

"Information on the soil samples, collected for purposes of the HRS, can be found in the HRS Documentation Record for the Site."

The information included in the Amended Draft WP is relevant to the HRS Documentation Record for the Site. Any impacts to the soil, sediment, ground water, and surface water from hazardous substances, pollutants, or contaminants will be determined during the RI/FS for the Site. This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments C (Hazard Ranking System Documentation Record) and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

26. Section 2.2.3.2 - Soil (Pages 15 and 16, 17th thru 23rd Paragraphs)

Amended Draft Work Plan

The Amended Draft WP states that:

"Results of the on-site sampling, which are reported in the HRS Document Record, revealed that the site had five source areas and each will be discussed in the following paragraphs.

Source Area 1 (AOC-2) was sampled to evaluate the discharge of refinery process wastewater plus other refinery effluent streams and runoff to an outlet located in Corpus Christi Bay. Samples SO-18, SO-22 and SO-23, collected from Source Area 1, were analyzed for Volatile Organics, Semi-Volatile Organics, Metals/Cyanide and Pesticides/PCB.

Results of the Source Area 1 sampling, indicated that six constituents were detected in at least one of the three samples for the source area. The two background samples for the source area had five of the six constituents.

Source Area 2 (AOC-3) was sampled based on a note from the 1996, inspection that noted that there was an area designated in 1981, as "dumped benzene". No visual evidence of such an activity exists. Results of the sampling indicated that nine constituents were detected above the laboratory detection limit.

Source Area 3 (AOC-4) was sampled to evaluate the main process area of the refinery and several known releases. A total of 12 samples, including one duplicate sample, were obtained from the source area. Of the 12 samples, only Thallium, a naturally occurring mineral, was detected above the TCEQ residential PCL.

Source Area 4 (AOC-5) was sampled to evaluate API separator sludge that was deposited inside the walls of a tank berm. Two samples SO-31 and SO-34 were analyzed and only lead and zinc were detected above the laboratory detection limit and the concentrations were significantly less than the TCEQ residential PCL.

Source Area 5 (AOC-6) was sampled to evaluate the dumping of cooling tower sludge on the ground. Analysis of sample SO-28 revealed that only Thallium was detected."

EPA's Comments

NORCO shall continue discussions with the EPA concerning the designation of each of the Areas of Concern referenced in the amended draft deliverables, including the rationale for these designations, during the recommended scoping meeting. Use of the term "operable units" shall also be discussed since this term is commonly used in the Superfund program. General Comment F (Designation of Operable Units) provides the EPA's discussions concerning these comments.

The Second Amended Draft WP shall exclude the statements concerning the detection of contaminants. The information included in the Amended Draft WP is relevant to the HRS Documentation Record for the Site. The Second Amended Draft WP shall also exclude comparisons of the HRS analytical data to State Protective Concentration Levels (PCLs) in the discussion of the five source areas identified in the HRS Documentation Record. Any impacts to the soil, sediment, ground water, and surface water from hazardous substances, pollutants, or contaminants will be determined during the RI/FS for the Site. Preliminary Remediation Goals (PRGs; i.e., Region 6 Medium-Specific Screening Levels [MSSLs], Ecological Screening Levels, and Applicable or Relevant and Appropriate Requirements [ARARs]) shall be established early in the RI/FS; specifically, during the "scoping" phase of the RI/FS. These risk-based screening levels, which will be used to develop a FSP and QAPP for this Site, may or may not be more stringent than the State's PCLs. Additionally, the analytical detection limits utilized in the HRS may have exceeded human health or ecological screening levels and would not be suitable for this RI/FS. This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General C (Hazard Ranking System Documentation Record) provides the EPA's discussions concerning these comments.

27. *Section 2.2.3.4 - Sediments (Page 16; 1st thru 3rd Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP identifies Figure 13 (TNRCC Sediment Sampling Location Map) and states that:

"The HRS provides the results of sediment sampling that was performed in 2000, by the TNRCC on behalf of the EPA. Figure 13 shows the locations of the 33 sediment samples, which included four background sediment sampling locations.

Of the 33 sediment samples that were taken during the HRS, only five had any constituents above either laboratory detection limits or background levels. Sediment sample SE-27 had two constituents of concern barium and manganese, however, this location is up gradient from the wetlands that are adjacent to the refinery and the detected compound could not have come from the refinery. In fact, background samples SE-07 and SE-08 also had these constituents.

Seven sediment samples (SE-18, 19, 20, 21, 22, 23 and 24) were taken immediately adjacent to the refinery property at locations selected to document the effect of runoff and spills from the refinery into the wetlands. Five of the sediment samples (SE-18, 19, 22, 23 and 24) had no constituents above laboratory detection limits. Sediment sample SE-20 had indications of barium and manganese (0.138 mg/kg and 0.352 mg/kg), however these were reported at a fraction of the concentration that was detected in the background samples (104.0 mg/kg and 250 mg/kg)."

EPA's Comments

These paragraphs, including Figure 13, shall be excluded from the Second Amended Draft WP and replaced with:

"Information on the sediment samples, collected for purposes of the HRS, can be found in the HRS Documentation Record for the Site."

The information included in the Amended Draft WP is relevant to the HRS Documentation Record for the Site. The analytical detection limits utilized in the HRS may have exceeded human health or ecological screening levels and would not be suitable or relevant to this RI/FS. Any impacts to the soil, sediment, ground water, and surface water from hazardous

substances, pollutants, or contaminants will be determined during the RI/FS for the Site. Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments C (Hazard Ranking System Documentation Record) and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

28. Section 2.2.4.1 - Other Sources (Page 18, 1st Paragraph)

Amended Draft Work Plan

This section of the Amended Draft WP entitled "Other Sources" states that:

"During the inspection at the Plains Marketing (formerly ARM Refining) facility in December 1985, the TWC documented an oil spill from an ARM pipeline which caused pollution to the surface waters of the State (Ref. 58, pp.2-3)."

EPA's Comments

The title of this section of the Amended Draft WP shall be changed to "Potential Off-Site Sources." General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

The Amended Draft WP shall be revised to state that:

"During the inspection at the Plains Marketing (formerly ARM Refining) facility in December 1985, the TWC documented an oil spill from an ARM pipeline which caused pollution to the surface waters of the State (Ref. 58, pp.2-3). During this time, ARM's operations consisted of reclaiming waste oil from drilling site pond skim and used lubrication oil from various sources."

This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

29. Section 2.2.4.1 - Other Sources (Page 18, 2nd Paragraph)

Amended Draft Work Plan

The Amended Draft WP identifies Figure 14 (Plains Marketing Voluntary Cleanup Monitor Well Locations) and Table 1 (Plains Marketing May 29, 2004, Analytical Results) and states that:

"Much of the facility has been assessed and evaluated through the Voluntary Cleanup Program under the TCEQ. The Plains site has 19 monitor wells, which have quarterly gauging and sampling data dating back to 1996 (Figure 14). May 29, 2004 analytical data (Table 1) indicate that four monitor wells have benzene concentrations that exceed the drinking water standard, which is 5.0 ug/l. One of the monitor wells (MW-17) that exceeded the drinking water standard is located across FM 2725 from the site where the release occurred."

EPA's Comments

Paragraph 14 of the RI/FS SOW states that:

"The Respondent shall compile existing data which resulted from any previous sampling events that may have been conducted on and near the Site. The Respondent shall gather existing data which describes previous responses that have been conducted on and near the Site by local, state, federal, or private parties."

The Second Amended Draft WP shall include a detailed discussion of the historical and current status of PMs VCP, including the associated documentation and monitoring well completion information. This discussion shall also include the activities conducted by entities prior to PM, such as ARM and others. The purpose of this detailed discussion is to determine the possible impact the ground water contamination at PM may have on this RI/FS. The TCEQ's contact person for PM's VCP is Mr. Stu Goldsmith. He can be reached at 512-239-2960. Additionally, the Second Amended Draft WP shall be revised to include a legible Figure 14 (Plains Marketing Voluntary Cleanup Monitor Well Locations). The title in the legend of Figure 14 shall be changed to reflect the title of Figure 14, "Plains Marketing Voluntary Cleanup Monitor Well Locations." Table 1 (Plains Marketing May 29, 2004, Analytical Results) shall identify the meaning of "TPH TX 1005." These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

30. Section 2.2.4.1 - Other Sources (Page 18; 3rd Paragraph)

Amended Draft Work Plan

The Amended Draft WP identifies monitor wells MW-1, MW-2, MW-3, MW-4 (Figure 15 - Plains Marketing Monitor Wells Not In Voluntary Cleanup), and Table 2 (Summary of Laboratory Analyses). The Amended Draft WP states that:

"These monitor wells are immediately upgradient of the North Site the release to this area has likely impacted the NORCO facility. The TCEQ has not required any delineation, additional sampling or remediation."

EPA's Comments

The Amended Draft WP shall be revised to include a legible Figure 15 and to reflect the monitoring well numbers depicted in Figure 15, "W-1, W-2, W-3, and W-4." Figure 15 shall be labeled with the text "Plains Marketing Monitor Wells Not in Voluntary Cleanup." Table 2 shall be revised to identify "TPH-D." The Amended Draft WP shall be revised to state that:

"These monitor wells are immediately upgradient of the North Site and the possibility exists that the ground water underlying the NORCO facility may have been impacted. This possibility will be investigated during the RI/FS planned for the Site."

Any impacts to the ground water from hazardous substances, pollutants, or contaminants will be determined during the RI/FS for the Site. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

31. *Section 2.2.4.1 - Other Sources (Pages 18 and 19, 4th - 10th Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP briefly discusses the industries or commercial entities located in the general vicinity of the facility.

EPA's Comments

Paragraph 14 of the RI/FS SOW states that:

"The Respondent shall compile and review all available data relating to past disposal practices of any kind on and near the Site. The Respondent shall compile existing data concerning the physical and chemical characteristics of the hazardous substances, and their distribution among the environmental media (ground water, soil, surface water, sediments, and air) on and near the Site."

The Second Amended Draft WP shall include a detailed discussion of the chemicals or organic and inorganic substances that are or were present or produced at each commercial site. The purpose of this information is to identify other possible sources of hazardous substances, pollutants, or contaminants that may be found at the Site. Additionally, the Second Amended Draft WP shall reference Figure 7 (Adjacent Properties Map) in this discussion. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

32. *Section 3.0 - Initial Evaluation (Page 20, 1st Paragraph)*

Amended Draft Work Plan

The Amended Draft WP identifies the human health conceptual site model (Figure 16 - Human Health Risk Assessment Conceptual Site Model) which consists of a flow diagram and states that:

"The Human Health Conceptual Site Model, which is depicted on Figure 16, describes the current and future exposure scenarios related to the Site, which has been divided into the North and South Sites, including off-site areas. RI/FS goals for each of these areas will be determined during the implementation of the Data Quality Objectives Process."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"The Human Health Conceptual Site Model (HH CSM) and Ecological Conceptual Site Model (Eco CSM), which are depicted on Figures 16 (Human Health Conceptual Site Model) and 17 (Ecological Conceptual Site Model), respectively, describe the current and future exposure scenarios related to the Site, which has been divided into the North and South Sites, including off-site areas. RI/FS goals for each of these areas will be determined during the implementation of the Data Quality Objectives (DQO) Process, before the development of the RI/FS Quality Assurance Project Plan and Field Sampling Plan and before any data are collected. The HH CSM and Eco CSM will be refined during the implementation of the DQO Process."

The Second Amended Draft WP shall include legible Figures 16 and 17. These figures are difficult to read, even in electronic format. The titles and legends of Figures 16 and 17 shall consistently be entitled, "Human Health Conceptual Site Model" and "Ecological Conceptual Site Model," respectively. In addition to a flow diagram, the Human Health Conceptual Site Model (HH CSM) and Ecological Conceptual Site Model (Eco CSM) shall also be depicted in schematic formats which are more easily understood by the public.

Attachment C (Example Conceptual Site Models [Flow Diagram and Schematic Formats] [on compact disk]) provides examples of CSMs that have been approved by the EPA. The Second Amended Draft WP shall include a HH CSM and an Eco CSM that contain similar format and content. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments B (Facility [Site] Boundaries), D (Data Quality Objectives), E (Sampling Design), F (Designation of Operable Units), G (Potentially Responsible Party), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), J (Preparation of the Proposed Plan and Record of Decision), and K (References to the Many Diversified Interests, Inc. Superfund Site) provide the EPA's discussions concerning these comments.

33. *Section 3.0 - Initial Evaluation (Page 20, 2nd Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"The South Site RI is described in detail in the Field Sampling Plan (FSP), which provides proposed locations for borings and monitor wells based on the five source areas that were identified in the HRS. However, based on the results of the RI, the South Site will likely be addressed in the future as one unit rather than the five units that were identified in the HRS."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"The North and South Sites are described in detail in the Field Sampling Plan (FSP), which provides proposed locations for borings and monitor wells based on the five source areas (judgmental sample locations) that were identified in the HRS and a random sampling scheme. For purposes of the planned risk assessments, the RI/FS goals for the North and South Sites, including the off-site

areas of the Site, will be determined during the implementation of the Data Quality Objectives Process, before the development of the RI/FS Quality Assurance Project Plan and Field Sampling Plan and before any data are collected."

These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. Each of the General Comments provide the EPA's discussions concerning these comments.

34. Section 3.1 - Types and Volumes of Waste (Page 20)

Amended Draft Work Plan

This section of the Amended Draft WP provides a brief discussion of the wastes that remain at the Site.

EPA's Comments

Paragraph 25 (Task 6 - Site Characterization) of the RI/FS SOW states that:

"The Respondent shall first identify the sources of contamination and define the nature, extent, and volume of the sources of contamination, including their physical and chemical constituents."

The Second Amended Draft WP shall include the recent data that has been collected as a result of the Removal Action. This data shall include the types and volumes of wastes that remain at the Site, including those wastes in the tanks and pipelines, and those wastes that have been removed. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

35. Section 3.2 - Potential Pathways of Contaminant Migration (Page 20, 1st Paragraph)

Amended Draft Work Plan

The Amended Draft WP describes Figure 16 (Human Health Conceptual Site Model).

EPA's Comments

The Human Health Conceptual Site Model (HH CSM) included in the Amended Draft WP shall be revised to also include, as appropriate, the releases or possible releases of hazardous substances, pollutants, or contaminants to or from the refuse area located southwest of the

facility; the backfilled surface impoundment located at the North Site, the waste pond located at the South Site, the vacant areas of the facility; the residential areas located immediately adjacent to the facility; the historical docking facility on Redfish Bay; and the historical wastewater discharge outfall point into Corpus Christi Bay (if constructed). The HH CSM shall also include, as appropriate, current and future recreational users and on-site trespassers. Additionally, volatilization to indoor air and releases from leaks/spills to on- and off-site wetlands shall also be included. NORCO shall continue discussions with the EPA concerning the HH CSM during the recommended scoping meeting.

Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments B (Facility [Site] Boundaries), D (Data Quality Objectives), E (Sampling Design), F (Designation of Operable Units), G (Potentially Responsible Party), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), J (Preparation of the Proposed Plan and Record of Decision), and K (References to the Many Diversified Interests, Inc. Superfund Site) provide the EPA's discussions concerning these comments.

36. *Section 5.4 - Community Relations (Page 21, 3rd Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"Also, the EPA awarded a Technical Assistance Grant (TAG) for the Falcon Refinery Site."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"The EPA awarded a Technical Assistance Grant (TAG) to the Coastal Bend Bays Foundation (CBBF) on December 14, 2004. Ms. Teresa A. Carrillo, the Executive Director for the CBBF, can be reached at (361) 882-3439 or at the internet address 'www.baysfoundation.org.' The purpose of a TAG is for a local citizens' group to secure the services of a technical advisor (TA) to increase citizen understanding of information that will be developed about the Site during the Superfund process. The EPA and NORCO will work closely with the TA and will provide the necessary documentation for his/her review."

General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

37. *Section 5.5.1 - General Site Description (Page 22, 1st Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"A general site description is provided in Section 2.0 of this report."

EPA's Comments

This section of the Second Amended Draft WP shall include the original text provided in NORCO's Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

38. *Section 5.5.2 - BHHRA Objectives (Page 22, 3rd Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"In accordance with the EPA's guidance, the risk assessment process for a site is comprised of the following four general objectives:

- Contaminant Identification. The objective of the contaminant identification is to screen the information that is available on hazardous substances present at the site and to identify chemicals of potential concern (COPC) and to focus subsequent efforts in the risk assessment process.
- Exposure Assessment. The objectives of the exposure assessment are to identify actual or potential exposure pathways, to characterize the potentially exposed populations, and to determine the extent of the exposure.
- Toxicity Assessment. The objective of the toxicity assessment is to develop qualitative and quantitative estimates of the risks associated with the site COPCs.

- Risk Characterization. The final objective of the risk assessment process is to characterize the potential, or actual, risks of adverse human health effects for each of the exposure scenarios identified for the site COPCs, through integration of the information developed during the exposure and toxicity assessment components. This risk characterization results in development of the Conceptual Site Model (CSM)."

EPA's Comments

The EPA's guidance document entitled, "Human Health Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual, Part A" (Office of Emergency and Remedial Response, EPA/540/1-89-002, December 1989) describes the four steps in the baseline risk assessment process and states that:

"... there are four steps in the baseline risk assessment process: data collection and evaluation, exposure assessment, toxicity assessment, and risk characterization."

In order to be consistent with the terminology in the EPA's guidance document, the Amended Draft WP shall be revised to state that:

"In accordance with the EPA guidance, the four steps of the baseline risk assessment process are:

- Data Collection and Evaluation - This step of the process involves gathering and analyzing the site data relevant to the human health evaluation and identifying the substances present at the site that are the focus of the risk assessment process.
- Exposure Assessment - An exposure assessment is conducted to estimate the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways by which humans are potentially exposed.
- Toxicity Assessment - The toxicity assessment component of the baseline risk assessment considers: (1) the types of adverse health effects associated with chemical exposures; (2) the relationship between magnitude of exposure and adverse effects; and (3) related uncertainties such as the weight of evidence of a particular chemical's carcinogenicity in humans.

• Risk Characterization - The risk characterization summarizes and combines outputs of the exposure and toxicity assessments to characterize baseline risk, both in quantitative expressions and qualitative statements. During risk characterization, chemical-specific toxicity information is compared against both measured contaminant exposure levels and those levels predicted through fate and transport modeling to determine whether current or future levels at or near the site are of potential concern."

Additionally, the Amended Draft WP shall be revised to state that the preparation of the Draft and Final Risk Assessment Reports shall follow the approach described in the EPA's guidance document entitled, "Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual [Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments], Interim, Publication 9285.7-01D, January 1998). This guidance document, among other tools, includes Standard Tables developed to clearly and consistently document important parameters, data, calculations, and conclusions from all stages of human health risk assessment development. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

39. *Section 5.5.4- Guidelines for Data Reduction (Pages 23 and 24, 1st Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"If a chemical is not positively identified in any sample from a given medium, because it is reported as a nondetect and/or because of blank contamination (as explained below), it will not be addressed for that medium.

.....

If a chemical is reported as a non-detect in a sample set containing at least one detection, it will be assumed to be present at one-half of the sample quantitation limit for that sample in the calculation of the mean concentration and the 95% upper confidence limit concentration (UCL) of the arithmetic mean."

EPA's Comments

This section of the Second Amended Draft WP shall include the statement that:

"The EPA's UCL exposure point concentration guidance document entitled, "Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites" (OSWER 9285.6-10, December 2002) will be referred to in determining the appropriate use of non-detect values in the risk assessments."

The EPA's exposure point concentration guidance document entitled, "Calculating the Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites" (OSWER 9285.6-10, December 2002) updates the May 1992 UCL guidance document and provides guidance on the use of non-detect values. General Comments D (Data Quality Objectives), E (Sampling Design), and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

40. Section 5.5.7 - Setting (Page 26, 1st Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"A description of the setting is provided in Section 2.0 of this report."

EPA's Comments

This section of the Second Amended Draft WP shall include the original text provided in NORCO's Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

41. Section 5.5.9 - Surface Water and Ground Water Resources and Uses (Page 28; 7th thru 9th, and 10th Paragraphs)

Amended Draft Work Plan

This section of the Amended Draft WP describes the surface water for Aransas Bay (PPE 4 In-Water Segment 3b; PPE 4 In-Water Segment 2b), Gulf of Mexico (PPE 4 In-Water Segment 4a; PPE 4 In-Water Segment 3a), Nueces Bay (PPE 3 In-Water Segment 4b; PPE 4 In-Water Segment 3b), and Corpus Christi Inner Harbor (PPE 4 In-Water Segment 3c).

EPA's Comments

These sections of the Amended Draft WP shall be excluded from the Second Amended Draft WP since they cover a much broader area than will be investigated for this RI/FS. General

Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

42. Section 5.5.9 - Surface Water and Ground Water Resources and Uses (Page 29; 1st, and 2nd Paragraphs)

Amended Draft Work Plan

This section of the Amended Draft WP describes the ground water at the Site.

EPA's Comments

Paragraph 14 of the RI/FS SOW states that:

"The Respondent shall gather existing information regarding geology, hydrogeology . . . of the Site."

.....

"The Respondent shall gather existing data which identifies and locates residential, municipal, or industrial wells on and near the Site. The Respondent shall gather existing data which identifies surface water uses for areas surrounding the Site including, but not limited to, downstream of the Site."

The Amended Draft WP shall be revised to include the two (2) water wells, relatively adjacent to the Site, that are not depicted in Figure 8 (Area Water Well Search Map) nor Appendix A (One Mile Water Well Search). These domestic water wells are located at 1233 and 1269 Bishop Road. Figure 8 shall depict the location of these water wells and the Second Amended Draft WP shall include any available drilling and completion information. Figure 8 shall identify "NTS" as "Not to Scale." These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments. Attachment A (Documentation of Hazardous Substances and Contaminant Releases to the Environment [on compact disk], [Reference I - Monthly Report of the EPA's Activities Concerning the CIP, 10/19/04]) provides additional information concerning these comments.

43. Section 5.5.10 - Potentially Exposed Populations (Page 29; 2nd Paragraph)

Amended Draft Work Plan

The Amended Draft Work Plan states that:

"Exposure pathways and routes will be identified for the Site based on the available information, along with discussions with EPA. Potential human health receptors for the site include, but are not limited to: current off-site recreational users, current and future on-site industrial workers, current off-site residents, future on-site residents, and future on-site construction workers. Based on EPA recommendations, recreational, commercial/industrial, and residential scenarios will be considered during the implementation of the RI/FS and risk assessment and in the calculation of risk at the Site. Site data will be reviewed further to determine the human health exposure scenarios associated with each receptor."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"Exposure pathways and routes have been identified for the Site based on the available information, along with discussions with the EPA. Potential human health receptors for the site include, but are not limited to: current and future on- and off-site recreational users, on-site industrial workers, on- and off-site residents, and on-site construction workers. Based on the EPA's recommendations, recreational, commercial/industrial, and residential scenarios will be considered during the implementation of the RI/FS and risk assessment and in the calculation of risk at the Site. The HH CSM may be revised based on additional Site data."

Additionally, the HH CSM (flow diagram and schematic formats) described in the Second Amended Draft WP shall depict each of these scenarios. General Comments A (Key Definitions), B (Facility [Site] Boundaries), E (Sampling Design), F (Designation of Operable Units), G (Potentially Responsible Party), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), J (Preparation of the Proposed Plan and Record of Decision), and K (References to the Many Diversified Interests, Inc. Superfund Site) provide the EPA's discussions concerning these comments.

44. Section 5.5.12 - Exposure Pathways (Page 30, 3rd Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"After the sources of chemicals are identified, the next step in the development of the conceptual model will be to determine mechanisms of release to site environmental media. The primary, and secondary and tertiary, if present, release mechanism will be identified for the Site. The potential exposure pathways and exposure routes will then be evaluated for each of the exposure scenarios."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"The primary, secondary, and tertiary release mechanism have been identified for the Site. The potential exposure pathways and exposure routes have been evaluated for each of the exposure scenarios."

General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

45. *Section 5.5.13- Exposure Point Concentrations (Page 30, 1st and 3rd Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP states that:

"The 95% upper confidence limit will be calculated assuming a lognormal distribution (EPA, 1992).

.....

As such, the maximum detected concentration in the most recent two years of the groundwater samples for each individual COPC will be used as the exposure point concentration."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"The 95% UCL will be calculated according to the procedures discussed in the EPA's UCL exposure point concentration guidance document entitled, 'Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites' (OSWER 9285.6-10, December 2002).

.....

As such, the maximum detected concentration in the most recent two years, if available, of the groundwater samples for each individual COPC will be used as the exposure point concentration."

Assuming a lognormal distribution for a data set in the calculation of the 95% UCL without performing the appropriate statistical test is not appropriate. The EPA's exposure point concentration guidance document entitled, "Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites" (OSWER 9285.6-10, December 2002) updates the May 1992 UCL guidance document and provides alternative methods for calculating the 95% UCL. This guidance document states that:

"There are a number of different methods for calculating UCLs. Before an appropriate method can be selected the site data must be characterized through exploratory analysis. Fitting distributions to the data is a crucial part of this exploratory data analysis (Schulz and Griffin 1999). As recommended by EPA (1992), 'where there is a question about the distribution of the data set, a statistical test should be used to identify the best distributional assumption for the data set.' This is necessary because no single distribution type fits all environmental data sets. Risk assessors deal with some environmental data sets that appear normally distributed, and with others that appear lognormally distributed. They also encounter data sets that do not fit either normal or lognormal distributions."

General Comments D (Data Quality Objectives), E (Sampling Design), and J (Preparation of the Proposed Plan and Record of Decision) provide the EPA's discussions concerning these comments.

46. Section 5.5.15 - Toxicity Assessment and Documentation (Page 32, 4th Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"Toxicity values that fall within the third tier in the hierarchy include, but need not be limited to, the following sources:

- A source and mechanism of chemical release."

EPA's Comments

The Amended Draft WP shall be revised to exclude the text of the 1st "bullet" of the paragraph since it has no relevance to the discussion. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

47. Section 5.5.15 - Toxicity Assessment and Documentation (Page 32, 5th Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"If an EPA- approved toxicity value is not available for a chemical, the chemical will not be evaluated quantitatively, but will be carried through the risk assessment and discussed qualitatively in the uncertainty analysis."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"If an EPA- approved toxicity value is not available for a chemical, the chemical will not be evaluated quantitatively, but will be carried through the risk assessment and discussed qualitatively in the uncertainty analysis. However, it may be appropriate to use a surrogate value (e.g., benzo(a)pyrene for a particular polycyclic aromatic hydrocarbon) rather than only evaluate the constituent qualitatively. Additionally, subchronic reference doses will not be used instead of the chronic standards for the subchronic exposure period. The subchronic exposure standards available from the EPA have not been through the same level of peer review and therefore are not recommended for use at this time."

General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

48. Section 5.5.17 - Carcinogenic Risk (Page 33, 2nd Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"The EPA's generally acceptable risk range for Site related exposures to carcinogens is 1.0×10^{-4} to 1.0×10^{-6} , or a 1 in 10,000 to 1 in 1,000,000 chance, respectively, of an individual developing cancer."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"The EPA's generally acceptable risk range for Site related exposures to carcinogens is 1.0×10^{-4} to 1.0×10^{-6} , or a 1 in 10,000 to 1 in 1,000,000 chance, respectively, of an individual developing cancer. Carcinogenic risk at the Site will initially be calculated at a potential excess cancer risk level of 1.0×10^{-6} . A risk management decision can be made at a later phase in the risk assessment to consider other options in the acceptable risk range."

General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

49. *Section 5.5.18 - Non-Carcinogenic Effects (Page 33, 1st Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"The potential for noncarcinogenic health effects will be evaluated by the calculation of hazard quotients (HQs) and hazard indices (HIs). An HQ is the ratio of the exposure duration-averaged estimated daily intake through a given exposure route to the chemical and route-specific (oral, inhalation, or dermal) RfD. The HQ-RfD relationship is illustrated by the following equation:"

EPA's Comments

For consistency within this section, the Amended Draft WP shall be revised to exclude this paragraph. This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record Decision) provides the EPA's discussions concerning these comments.

50. *Section 5.5.20 - Approach for Developing Preliminary Remediation Goals (Pages 34 and 35, 3rd and 4th Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP states that:

"PRGs will be calculated for each chemical in a medium based on total cancer risks of 1E-06 (1-in 1-million), 1E-05 (1-in-100,000) , and 1E-04 (1-in-10,000) and on total hazard indices of 0.1, 1.0 and 3 (EPA, 1996c).

Since the cancer risk or hazard index for a chemical is directly proportional to the exposure concentration, the following simplified equation will be used to calculate PRGs.

$$\text{PRG} = \frac{\text{TL} \times \text{EC}}{\text{CR (or HI)}}$$

, which can be averaged over a 70-year lifetime,

Where:

TL = Target Level (HI = 0.1, 1.0 and 3 for noncarcinogenic effects and cancer

Risk = 1E-06, 1E-05 or 1E-04 for carcinogenic effects).

EC = Medium-Specific Exposure Concentration.

CR (or HI) = Cancer Risk or Hazard Index calculated based on the EC."

EPA's Comments

The approach for calculating PRGs, discussed in the Amended Draft WP, was derived from the EPA's Region 4 "Human Health Risk Assessment Bulletins, Supplemental Guidance." These bulletins also discuss the calculation of Remedial Goal Options.

For this Site, carcinogenic and non-carcinogenic PRGs shall be established at the 1.0×10^{-6} risk level and HI of 1, respectively. Additionally, this section of the Amended Draft WP shall be revised to reflect the approach for calculating PRGs discussed in the EPA's PRGs directive entitled, "Human Health Evaluation Manual, Part B: Development of Risk-Based Preliminary Remediation Goals" (OSWER Directive 9285.7-01B, December 13, 1991). This directive states that:

"Part B provides guidance on using U.S. Environmental Protection Agency (EPA) toxicity values and exposure information to derive risk-based PRGs. Initially developed at the scoping phase using readily available information, risk-based PRGs generally are modified based on site-specific data gathered during the remedial investigation/feasibility study (RI/FS).

.....

Chemical-specific PRGs are concentration goals for individual chemicals for specific medium and land use combinations at CERCLA sites. There are two general sources of chemical-specific PRGs: (1) concentrations based on ARARs and (2) concentrations based on risk assessment.

.....

The recommended approach for developing remediation goals is to identify PRGs at scoping, modify them as needed at the end of the RI or during the FS based on site-specific information from the baseline risk assessment, and ultimately select remediation levels in the Record of Decision (ROD).

.....

In general, the equations described in this chapter [3] are sufficient for calculating the risk-based PRGs at the scoping stage of the RI/FS. Note, however, that these equations are based on standard default assumptions that may or may not reflect site-specific conditions."

The EPA's Region 6 MSSSLs have been developed according to the approach recommended in the EPA's 1991 PRGs directive. The establishment of PRGs (i.e., MSSSLs, Ecological Screening Levels, and ARARs) early in the RI process, usually at scoping, serves as the basis for the RI/FS FSP and QAPP. Detection limits need to be reviewed before the FSP and QAPP are completed to ensure that the proposed analytical methods will have adequate quantitation limits and the Site can be adequately characterized. Quantitation limits shall be less than human health and ecological screening levels. Attachment D (Example Tables of Sample Quantitation Limits and Screening Levels [on compact disk]) provides example tables that have been approved by the EPA. The tables in the Second Amended Draft WP shall include the content and format depicted in these examples. These tables shall also include PCLs. These comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment K (References to the Many Diversified Interests, Inc. Superfund Site; Houston Texas) provides the EPA's discussions concerning these comments.

51. *Section 5.6. - Baseline Ecological Risk Assessment (Page 35, 3rd Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"The BERA process for the Site will include the following eight steps in accordance with the AOC:

- Step 1
- Step 2 Screening Level Assessments.
- Step 3
- Step 4 Study Design and Data Quality Objectives.
- Step 5 Field Verification and Sampling Design.
- Step 6 Site Investigation of Analysis of Exposure and Effects.
- Step 7
- Step 8"

EPA's Comments

For consistency with the terminology in the EPA's guidance document entitled; "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final" (EPA 540-R-97-006, June 1997), the Final WP shall be revised to state that:

"The BERA process for the Site will include the following eight steps in accordance with the AOC:

- Step 1
- Step 2 Screening Level Exposure Estimate and Risk Calculation.
- Step 3
- Step 4 Study Design and Data Quality Objective Process.
- Step 5 Field Verification of Sampling Design.
- Step 6 Site Investigation.
- Step 7
- Step 8"

Additionally, the appropriate sections of the Amended Draft WP shall be revised to reflect this terminology. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

52. Section 5.6.2 - Screening Level Assessment (Step 2) (Page 36, 1st Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"The screening ecotoxicity values will represent a no-observed-adverse effect level for long-term exposure to a constituent by lower trophic level species such as invertebrate and plants."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"The screening ecotoxicity values will represent a no-observed-adverse effect level for chronic exposure to a sensitive receptor species."

General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

53. Section 5.6.2 - Screening Level Assessment (Step 2) (Page 36, 3rd Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"COCs that exceed the selected ecological benchmarks will be retained as COPECs as described in detail by the data reduction method."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"COCs that exceed the selected ecological benchmarks will be retained as COPECs as described in detail by the data reduction method. Bioaccumulative

COPECs will be retained for further evaluation if they are detected in site media potentially posing a risk of bioaccumulation to higher trophic levels, even if they are present at concentrations below the screening level benchmarks. This is because COPECs that bioaccumulate may pose a significant risk to higher trophic level organisms if they biomagnify through the food chain."

General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

54. Section 5.6.2.1.3 - Sediments (Page 37, 1st Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"All of the above referenced databases will be consulted for appropriate values."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"All of the referenced databases, including other sources, will be consulted for appropriate values. A hierarchy of values will also be established."

This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

55. Section 5.6.2.1.4 - Screening Level Ecological Risk Assessment Report (Page 38, 2nd Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"Specifically, the three possible conditions with respect to the BERA at this point include:

- There is adequate information to conclude that ecological risks are negligible and therefore no need for remedial on the basis of ecological risk.

adequate for to make a decision at this
ecological risk assessment process will continue

EPA's Comments

The Amended

state that:

"Specifically, the three possible conditions with respect to the BERA at this point include:

- There is adequate information to conclude that ecological risks are negligible and therefore no need for remedial action on the basis of ecological risk.
- The information is not adequate to make a decision at this point, and the ecological risk assessment process will continue (Steps 3 through 8)."

General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

56. *Section 5.6.3.1.2 - Characterization of Habitats (Page 40; 2nd thru 4th Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP states that:

"Surface deposits at the Site consist of Quaternary Alluvium, which is comprised of clay, silt and sand of varying grain size. Beneath the alluvium, is the Pleistocene Aged Beaumont Clay, which is comprised of clay that is interbedded with medium to fine sand. Both formations typically yield small to moderate quantities of fresh to moderately saline water.

Shallow groundwater is detected at depths typically less than eight feet at an adjacent facility and site information indicates a shallow residential water well is located on property east of the Site. More specific data related to the site groundwater will be available upon completion of the additional site investigation activities.

The Site is located in the San Antonio-Nueces Coastal Basin adjacent to Redfish Bay, which connects Corpus Christi Bay to the Gulf of Mexico. Surface water drainage from the Site enters the wetlands along the southeastern section of the abandoned refinery. A culvert connects the onsite palustrine/estuarine wetlands to the estuarine wetlands. The wetlands then connect to the Intracoastal Waterway and Redfish Bay."

EPA's Comments

These paragraphs included in the Amended Draft WP shall be excluded from the Second Amended Draft WP since they are not relevant to the characterization of habitats. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

57. *Section 5.6.3.1.5 - Identification of Exposure Pathways (Page 41, 2nd Paragraph)*

Amended Draft Work Plan

The Amended Draft WP identifies Figure 17 (Ecological Risk Assessment Conceptual Site Model).

EPA's Comments

The Amended Draft WP shall be revised to include a legible Figure 17. This figure is difficult to read, even in electronic format. In addition to a flow diagram, the Ecological Conceptual Site Model (ECO CSM) shall also be depicted in a schematic format which is more easily understood by the public. Attachment C (Example Conceptual Site Models [Flow Diagram and Schematic Formats] [on compact disk]) provides examples of CSMs that have been approved by the EPA. The Second Amended Draft WP shall include an ECO CSM which contains similar format and content.

The ECO CSM included in the Amended Draft WP shall be revised to also include, as appropriate, the releases or possible releases of hazardous substances, pollutants, or contaminants to or from the refuse area located southwest of the facility; the backfilled surface impoundment located at the North Site, the waste pond located at the South Site, the vacant areas of the facility; the residential areas located immediately adjacent to the facility; the historical docking facility on Redfish Bay; and the historical wastewater discharge outfall point into Corpus Christi Bay (if constructed). Additionally, releases from leaks/spills to on- and off-site wetlands shall also be included. NORCO shall continue discussions with the EPA concerning the ECO CSM during the recommended scoping meeting.

Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments B (Facility [Site] Boundaries), D (Data Quality Objectives), E (Sampling Design), F (Designation of Operable Units), G (Potentially Responsible Party), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), J (Preparation of the Proposed Plan and Record of Decision), and K (References to the Many Diversified Interests, Inc. Superfund Site) provide the EPA's discussions concerning these comments.

58. Section 5.6.3.1.6 - Ecotoxicity of Contaminants (Page 42, 2nd Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"Federal and State AWQC will be used to evaluate toxic effects of COPECs of fish and other aquatic species in surface water and the palustrine/estuarine wetlands and Redfish Bay."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"Federal and State Ambient Water Quality Criteria (AWQC) will be used to evaluate toxic effects of COPECs of fish and other aquatic species in surface water and the palustrine/estuarine wetlands and Redfish Bay. While AWQC are assumed to be protective of fish and aquatic invertebrates from a surface water standpoint, they do not take into account ingestion of contaminated sediment. The "sediment to invertebrate" and "sediment to fish" pathways will be addressed in the ecological risk assessment."

General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

59. Section 5.6.3.2.2 - Exposure Point Concentrations (Page 46, 9th Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"With the exception of shallow groundwater that may provide a source to terrestrial vegetation, the groundwater is an incomplete ecological pathway unless there is a groundwater discharge to sediments and/or surface water."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"With the exception of shallow groundwater that may provide a source to terrestrial vegetation, the groundwater is an incomplete ecological pathway unless there is a groundwater discharge to surface water."

General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

60. *Section 5.7.4 - TS Work Plan Deliverables (Page 59, 1st Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"A Draft TS Work Plan will be prepared and submitted to EPA for review 45 days of notice from EPA that treatability studies are required."

EPA's Comments

Appendix A (Schedule of Deliverables/Meetings) of the AOC's RI/FS SOW includes the schedule for this RI/FS. This schedule shall be reflected in the Project Schedule of Appendix C. The Amended Draft WP shall be revised to state that:

"A Draft TS WP will be prepared and submitted to the EPA for review within 60 days of the receipt of the EPA's notice that treatability studies are required."

This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

61. Section 5.7.5 - Treatability Study Report (Page 60, 2nd Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"A Final TS Report will be submitted within 30 calendar days of receipt of the EPA."

EPA's Comments

Appendix A (Schedule of Deliverables/Meetings) of the AOC's RI/FS SOW includes the schedule for this RI/FS. This schedule shall be reflected in the Project Schedule of Appendix C. The Amended Draft WP shall be revised to state that:

"A Final TS Report will be submitted within 30 calendar days of receipt of the EPA's comments on the Amended Draft TS Report."

This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

62. Section 5.8.1.1 - Phases of the Feasibility Report (Page 61)

Amended Draft Work Plan

This section of the Amended Draft WP identifies the title "Phases of the Feasibility Report."

EPA's Comments

The title of this section of the Amended Draft WP shall be revised to "Phases of the Feasibility Study." General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

63. Section 5.8.2.1 - Task 1, Develop Remedial Action Objectives (Page 62, 3rd Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"The remediation goals for all carcinogens of concern provides protection with the risk range of 10^{-4} to 10^{-7} ."

EPA's Comments

The EPA's acceptable cancer risk range was revised in 1990 and is discussed in the NCP at 40 CFR §300.430(e)(2)(i)(A)(2). The Amended Draft WP shall be revised to state that:

"The remediation goals for all carcinogens of concern will be within the acceptable risk range of 1.0×10^{-4} to 1.0×10^{-6} , or the probability of one in 10,000 to one in 1,000,000 individuals developing cancer as a result of Site-related contaminants, respectively."

This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

64. **Section 5.8.2.2 - Task 2, Develop General Response Actions (Page 62, 1st Paragraph)**

Amended Draft Work Plan

The Amended Draft WP states that:

"The contents of the tanks and piping leading from the North Site to current barge docking area will be addressed by the ongoing Removal action and the planned Remedial Action."

EPA's Comments

The Amended Draft WP shall be revised to state that:

"The contents of the tanks and piping leading from the North Site to the historical and current docking areas will be addressed by the ongoing Removal Action and the planned Remedial Action."

This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), and G (Potentially Responsible Party) provide the EPA's discussions concerning these comments.

65. *Section 5.8.2.7.2 - Screening Evaluation (Page 67, 5th Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"After the evaluation has been completed, an Alternative Development and Screening Technical Memorandum will be submitted to the EPA for review and comment. This memorandum will present the tasks performed to screen the remedial alternatives and the recommended remedial alternatives retained to undergo detailed analysis. The EPA will provide written comments to, and, if necessary, either conduct a telephone conference or meet to discuss those comments. The memorandum will be revised and re-submitted with a summary note that states how each of the EPA's comments are addressed."

EPA's Comments

Appendix A (Schedule of Deliverables/Meetings) of the AOC's RI/FS SOW includes the schedule for this RI/FS. This schedule shall be reflected in the Project Schedule of Appendix C. The Amended Draft WP shall be revised to state that:

"After the evaluation is completed, a Draft Alternative Development and Screening Memorandum (ADSM) will be submitted to the EPA for review as specified in the Final RI/FS WP. An Amended Draft ADSM will be submitted to the EPA within 30 calendar days of the receipt of comments on the Draft ADSM. A Final ADSM will be submitted to the EPA within 14 calendar days of the receipt of comments on the Amended Draft ADSM."

This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

66. *Section 5.8.3.2.3 - Long Term Effectiveness and Permanence (Pages 69, 2nd and 3rd Paragraphs)*

Amended Draft Work Plan

The Amended Draft WP states that:

"Magnitude of residual risk remaining from untreated waste or treatment residuals at the conclusion of remedial activities. The potential for this risk will be measured by numerical standards such as cancer risk levels, or the volume or concentration of contaminants in remaining waste, media or treatment residuals. The characteristics of the residual will be considered to the degree that they remain hazardous, taking into account their volume, toxicity, mobility, and propensity to bio-accumulate.

Adequacy and reliability of controls that will be used to manage treatment residuals, or untreated wastes, remaining at the Site. The sufficiency of the site containment systems or institutional controls will be assessed to ensure that any exposure to human and environmental receptors is within protective levels. In addition, the long-term reliability of management controls and potential needs to replace technical components of the alternative will also be evaluated."

EPA's Comments

The Amended Draft WP shall be revised into a format that is consistent with the content of the 1st paragraph of this section. This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

67. *Section 5.8.3.2.5 - Short Term Effectiveness (Page 70, 2nd Paragraph)*

Amended Draft Work Plan

The Amended Draft WP states that:

"The following factors will be evaluated, focusing associated with each:"

EPA's Comments

The Amended Draft WP shall be revised to state that:

"The following factors will be evaluated:"

This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

68. Section 5.8.5.1 - Alternative Development and Screening Reporting (Page 72, 1st Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"The Amended Draft ADSM will be prepared and submitted within 14 calendar days of receipt of EPA's comments to the Draft ADSM. The Final ADSM will be then be prepared and submitted within 14 days of receipt of EPA's comment to the Amended Draft ADSM."

EPA's Comments

The Amended Draft WP shall be revised to exclude this paragraph since submittal of the ADSM has already been addressed. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

69. Section 5.8.5.2 - Detailed Analysis of Alternatives for Remedial Action Reporting (Page 72, 5th Paragraph)

Amended Draft Work Plan

The Amended Draft WP states that:

"The Amended Draft FS Report will be prepared and submitted within 14 calendar days of receipt of the EPA's comments to the Draft FS Report."

EPA's Comments

Appendix A (Schedule of Deliverables/Meetings) of the AOC's RI/FS SOW includes the schedule for this RI/FS. This schedule shall be reflected in the Project Schedule of Appendix C. The Amended Draft WP shall be revised to state that:

"The Amended Draft FS Report will be prepared and submitted within 30 calendar days of receipt of the EPA's comments on the Draft FS Report."

This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

70. *Section 6.0 - Schedule (Page 73, Appendix C [Project Schedule])*

Amended Draft Work Plan

This section of the Amended Draft WP identifies the project schedule, which is included as Appendix C (Project Schedule). Appendix C of the Amended Draft WP projects the due date for the following deliverables:

- 1) Draft RI Report - Due 11 months after the BHHRA Report, and
- 2) Draft FS Report - Due 16 months after the RI Report.

EPA's Comments

The Second Amended Draft WP shall include a revised project schedule to complete the RI/FS. This revised schedule shall also reflect the schedule of Appendix A (Schedule of Deliverables/Meetings) of the AOC's RI/FS SOW. The BHHRA, including the SLERA, cannot be completed until all of the RI data is reviewed and qualified and the RI Report is completed. Additionally, the time period in which to submit the FS Report is excessive and will delay the preparation of the Proposed Plan and Record of Decision for the Site. The Second Amended Draft WP shall also include the schedule for submittal of the Draft Screening Level Ecological Risk Assessment Report. The Draft RI, FS, BHHRA, and SLERA Reports shall all be completed and submitted to the EPA at approximately the same time frame. NORCO shall continue discussions with the EPA concerning the project schedule during the recommended scoping meeting. Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

71. Section 7.0 - Project Management (Page 74, 1st Paragraph)

Amended Draft Work Plan

The Amended Draft WP identifies Figure 19.

EPA's Comments

Figure 19 of the Second Amended Draft WP shall consistently be entitled "Project Team," including the Table of Contents. Additionally, Figure 19 shall be revised to reflect NORCO's current project team. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

72. Section 8.0 - Reporting (Page 75, 1st and 2nd Paragraphs)

Amended Draft Work Plan

The Amended Draft WP states that:

"After completing the approved field sampling and analysis NORCO will submit a concise Draft Preliminary Site Characterization Summary Report (PSCSR) to the EPA for review and comment. Included in the report will be investigative activities, site characteristics and affected medium, location, types, physical state and concentration and quantity of contaminants. Also the location, dimension, physical condition, and varying concentrations of each contaminant throughout each source and the extent of contamination migration through each of the affected media will be documented.

The Draft PSCSR will provide a preliminary reference for developing the Baseline Human Health and Ecological Risks Assessments."

EPA's Comments

The Amended Draft WP shall be revised to exclude these paragraphs since submittal of the Draft PSCSR has already been addressed. The Second Amended Draft WP shall include the text provided in the Draft WP dated September 7, 2004. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

73. *Section 11.0 - References (Page 108)*

Amended Draft Work Plan

The Amended Draft WP includes references in the text and in the references section of the WP.

EPA's Comments

The references in the text and in the references section of the Amended Draft WP shall be revised into a format in which they can be easily cross-referenced. Perhaps the text of the Second Amended Draft WP could refer to the Reference Number identified in the references section of the work plan; or alternatively, the references section could be alphabetized by author or agency for ease of cross-referencing. The references section of the Second Amended Draft WP should be revised to reflect the changes to the text of the Second Amended Draft WP throughout its entirety. EPA's comments concerning the Draft Proposed Plan are provided in the comments.

The following table lists the references in the Amended Draft FSP. The deliverable-specific comments are listed in the table. The table lists the page, paragraph, and sections (except Deliverable-Specific Comment 72) corresponding to the Amended Draft FSP required pursuant to the AOC. A paragraph number corresponds to the sequence of a paragraph within a section.

74. *Amended Draft Field Sampling Plan Content*

The MDI Final FSP, included as Attachment B (Many Diversified Interests, Inc. Superfund Site; Houston, Texas; Field Sampling Plan and Quality Assurance Project Plan [on compact disk]), is provided as a recent example of a deliverable that has been approved by the EPA. This deliverable was prepared by the EPA's contractor along with technical direction from

the MDI Site's RPMs. The Amended Draft FSP shall be revised to include similar content. This comment was previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments G (Potentially Responsible Party), J (Preparation of the Proposed Plan and Record of Decision), and K (References to the Many Diversified Interests, Inc., Superfund Site; Houston, Texas) provide the EPA's discussions concerning these comments.

75. *Section 4.0 - Sampling Objectives (Page 2, 3rd Paragraph)*

Amended Draft Field Sampling Plan

The Amended Draft FSP states that:

"Other areas that will be evaluated include other areas of the facility, the current barge docking facility on Redfish Bay and two residential areas adjacent to the facility. The wetland areas located south, southeast and east of the facility and the pipelines leading from the North Site to the docking facility will be evaluated in the future, after the issues concerning the ARM Refining pipeline spill in the wetlands are resolved."

EPA's Comments

The Amended Draft FSP shall be revised to state that:

"Other areas that will be evaluated include other areas of the facility; two residential areas located immediately adjacent to the facility; the wetland areas located south, southeast, and east of the facility (including the wetland areas located north of Sunray Road); the historical and current docking facilities on Redfish Bay; the entire length of the pipelines leading from the North Site to the historical and current docking facilities; and the historical wastewater discharge outfall point into Corpus Christi Bay (if constructed)."

The EPA entered into an agreement for the performance of an RI/FS with only NORCO. As the sole respondent and party to the AOC, NORCO is the sole responsible party bound by the terms of the AOC and is strictly liable under CERCLA. That is, under the terms of the AOC, the EPA has determined that NORCO is responsible for the RI/FS at the Site without proving that NORCO was at fault for the releases or potential releases of hazardous substances, pollutants, or contaminants "at" or "from" the Site. The EPA's process of identifying PRPs is an ongoing process and will not delay the performance of the RI/FS for this Site as directed by the EPA. In the event that other PRPs for the Site are identified, NORCO may "seek contribution from any other person who is liable or potentially liable" in accordance with CERCLA §113(f).

The EPA strongly encourages that NORCO representatives participate in another scoping meeting before NORCO begins the process of revising the deliverables disapproved by the EPA and before submittal of the Second Amended Draft WP, FSP, and QAPP. This scoping meeting will include a comprehensive discussion of the DQO Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP.

General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), G (Potentially Responsible Party), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

76. *Section 4.0 - Sampling Objectives (Page 3, 7th Paragraph)*

Amended Draft Field Sampling Plan

The Amended Draft FSP identifies Table 1 (Analytical Sampling Matrix).

EPA's Comments

The Amended Draft FSP shall be revised to state that:

"Table 1 (Analytical Sampling Matrix) is a summary table of the samples to be collected in each source area (SA) identified in the HRS Documentation Record; the North Site; select residential areas located immediately adjacent to the facility; the wetland areas located south, southeast, and east of the facility (including the wetland areas located north of Sunray Road); the historical and current docking facilities on Redfish Bay; the entire length of the pipelines leading from the North Site to the historical and current docking facilities; and the historical wastewater discharge outfall point into Corpus Christi Bay. Sample locations are depicted in the maps included with this FSP. Exact sample locations will be determined in the field based on field conditions. The judgmental (biased) samples will be taken from the known source areas or intervals of highest suspected or known concentrations. Random samples will be collected from each area as discussed in this FSP."

The Amended Draft FSP shall be revised to include additional sampling locations for the areas excluded from the Amended Draft FSP. The footnotes included in Table 1 of the Amended Draft FSP shall be excluded from the Second Amended Draft FSP since they have no relevance to Table 1 or this investigation. Additionally, the "notes" section of Table 1 shall be reviewed for their applicability to Table 1. NORCO shall continue discussions with the EPA concerning Table 1 during the recommended scoping meeting. Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. Each of the General Comments provide the EPA's discussions concerning these comments.

77. *Section 4.0 - Sampling Objectives (Page 3, 8th Paragraph)*

Amended Draft Field Sampling Plan

The Amended Draft FSP identifies Appendix A (Standard Operating Procedures).

EPA's Comments

The Second Amended Draft FSP shall include the Standard Operating Procedures for

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The EPA is disapproving (cannot comment) the Amended Draft FSP since it does not meet the requirements for a well developed plan that can be used to support this RI/FS and the risk assessments for this Site. An adequate FSP (and QAPP) can only be prepared after a comprehensive discussion of the DQO Process and the involvement of the entire project team. The DQO Process is not a unilateral process which represents the findings of only one party (i.e., the PRP), but an iterative team approach process that requires input from the entire project team

which includes the EPA, State and Federal Natural Resource Trustees, and NORCO. NORCO shall continue discussions with the EPA concerning the content of the Second Amended Draft QAPP during the recommended scoping meeting.

Additionally, the title of Section 5.0 of the Second Amended Draft FSP shall be changed from "On-Site Sampling Locations and Frequency" to "On-Site Judgmental Sampling Locations and Frequency." NORCO shall continue discussions with the EPA concerning the on-site sampling locations and frequency during the recommended scoping meeting. Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. Each of the General Comments provide the EPA's discussions concerning these comments.

79. *Section 5.0 - Sample Locations and Frequency (Page 3, 1st Paragraph)*

Amended Draft Field Sampling Plan

The Amended Draft FSP identifies Figure 2 (Refinery with North Site, South Site and Barge Docking Facility) and states that:

"Falcon Refinery on-site sampling includes the main processing and storage area (South Site), the truck rack and storage area (North Site), portions of the refinery that are not associated with processing or storage (also at the South Site) and the barge docking facility on Redfish Bay (Figure 2). These areas have been described as AOCs and each AOC will be discussed separately."

EPA's Comments

The Amended Draft FSP shall be revised to state that:

"Falcon Refinery, which includes the main processing and storage area (South Site) and the truck rack and storage area (North Site), is separated into two properties by Bishop Road and FM 2725 (Figure 2). The field sampling plans for each Site will be discussed separately. The other areas of the facility, including the on- and off-site areas of the Site, described in Section 4.0 (Sampling Objectives) of this Second Amended Draft FSP, will also be discussed separately."

Figure 2 shall be revised in the Amended Draft FSP since the paper copy is difficult to read. Figure 2 of the Second Amended Draft FSP shall be consistently entitled, "Areas of Concern." Additionally, each of the AOCs shall be discussed in this section of the Second

Amended Draft FSP. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

NORCO shall continue discussions with the EPA concerning the designation of each of the Areas of Concern referenced in the amended draft deliverables and Figure 2, including the rationale for these designations, during the recommended scoping meeting. Use of the term "operable units" shall also be discussed since this term is commonly used in the Superfund program. General Comment F (Designation of Operable Units) provides the EPA's discussions concerning these comments.

80. *Section 5.0 - On-Site Sample Locations and Frequency (Page 3; 2nd and 3rd Paragraphs)*

Amended Draft Field Sampling Plan

The Amended Draft FSP states that:

"Information presented in the DQO portion of the QAPP indicated that a minimal number of samples (as little as six) were needed to adequately meet the DQO for the entire process area of the refinery based on the minimal concentrations of COCs from prior sampling.

.....

Judgmental soil sampling locations and frequencies, for each of the areas described in Section 4.0 (Sampling Objectives) of this FSP, were selected consistent with the goals and outcome of the Data Quality Objectives Process."

EPA's Comments

The EPA's DQO guidance document entitled, "Guidance for the Data Quality Objectives Process" (EPA QA/G-4, EPA/600/R-96/055, August 2000) states that:

"The DQO Process integrates a multidisciplinary team and offers the advantages of using experience and resources of individuals who have different backgrounds, different kinds of knowledge, and who can collectively focus on achieving a successful project conclusion. During the initial planning stages, the planning team can concentrate on developing requirements for collecting the data and work to reach consensus on the type, quantity, and quality of data needed to support Agency [EPA] decisions. This interaction results in a clear understanding of the problem and the options available for addressing it, the development of

acceptance or performance criteria for decision making, a consensus-based approach to understanding the problem, and data being collected of appropriate quality.”

.....
“Upon implementing the DQO Process, your environmental programs may be strengthened by:

- focused data requirements and optimized design for data collection,
- use of clearly developed work plans for collecting data in the field,
- uniformly documented data collection, evaluation, and use,
- clearly developed analysis plans,
- sound, comprehensive quality assurance project plans, and
- up-front buy-in by stakeholders to the sampling design and data collection process.”

The statement in the Amended Draft FSP concerning the minimal number of samples to adequately meet the DQOs for the entire process area of the refinery based on the minimal concentrations of COCs from prior sampling shall be excluded from the Second Amended Draft FSP. The standard deviation of a COC determines the number of samples needed to characterize the Site, not “minimal concentrations.”

The DQO Process is not a unilateral process which represents the findings of only one party (i.e., the PRP), but an iterative team approach process that requires input from the entire project team which includes the EPA, State and Federal Natural Resource Trustees, and NORCO. An adequate Field Sampling Plan and Quality Assurance Project Plan can only be prepared after a comprehensive discussion of the DQO Process and the involvement of the entire project team.

Additionally, the initial field sampling effort will be performed to identify chemicals of potential concern (COPCs). Chemicals of Concern (COCs), identified during subsequent phases of a field sampling effort, will be carried forward into the risk assessments for the Site. Any COPCs and COCs; and any impacts to the on- and off-site areas of the Site from hazardous substances, pollutants, or contaminants will be determined during the RI/FS for the Site.

Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. General Comments C (Hazard Ranking System Documentation Record), D (Data Quality Objectives), E (Sampling Design), G (Potentially Responsible Party), J (Preparation of the Proposed Plan and Record of Decision), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

81. *Section 5.0 - On-Site Sample Locations and Frequency (Page 3, 4th Paragraph)*

Amended Draft Field Sampling Plan

The Amended Draft FSP states that:

"Random statistically representative sampling will be used in the in the on-site non-process areas and the barge docking facility."

EPA's Comments

The Amended Draft FSP shall be revised to include a separate section (e.g., #.0) entitled, "Random On-Site Sampling Locations and Frequency," which shall include the same general information presented in Section 5.0. This separate section shall discuss the random sampling scheme for the HRS source areas; other areas of the facility; the North Site; select residential areas located immediately adjacent to the facility; the wetland areas located south, southeast, and east of the facility (including the wetland areas located north of Sunray Road); the historical and current docking facilities on Redfish Bay; the entire length of the pipelines leading from the North Site to the historical and current docking facilities; and the historical wastewater discharge outfall point into Corpus Christi Bay (if constructed). Attachment F (Example Judgmental and Random Grid Sampling Designs [on compact disk]) provides examples of judgmental and random grid sampling designs that have been approved by the EPA. Similar sampling approaches, developed during the DQO Process for this project, shall be considered in the sampling design presented in the Second Amended Draft FSP. NORCO shall continue discussions with the EPA concerning the judgmental and random sampling schemes and the areas to be addressed during the recommended scoping meeting. Each of the General Comments provide the EPA's discussions concerning these comments.

82. Section 6.0 - Off-Site Sampling Locations and Frequency (Pages 20 through 25)

Amended Draft Field Sampling Plan

Sections 6.1 (AOCs, 8, 9, and 10 [Wetlands]), 6.2 (AOC 12 [Redfish Bay Adjacent to Current Barge Docking Facility]), 6.3 (AOC 13), 6.4 (AOC 14), 6.5 (AOC-15), 6.6 (AOC 16), and 6.7 (Overall Sampling Locations) of the Amended Draft FSP describe background information, and the proposed "limited" soil and sediment investigations.

EPA's Comments

The EPA is disapproving these sections of the Amended Draft FSP since they do not meet the requirements for a well developed sampling plan that can be used to support this RI/FS and the risk assessments for this Site. The title of Section 6.0 of the Second Amended Draft FSP shall be changed from "Off-Site Sampling Locations and Frequency" to "Off-Site Judgmental Sampling Locations and Frequency." NORCO shall continue discussions with the EPA concerning the off-site sampling locations and frequency during the recommended scoping meeting. Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. Each of the General Comments provide the EPA's discussions concerning these comments.

83. Section 6.1 - AOCs 8, 9 and 10 (Wetlands) (Pages 20 and 21; 2nd, 3rd, 7th, 8th, 9th, and 10th Paragraphs)

Amended Draft Field Sampling Plan

The Amended Draft FSP states that:

"After NORCO received the comments to the previous version of the RI/FS Workplan and the Field Sampling Plan, a review of the project information revealed that a major release had occurred into the wetlands from a pipeline not owned by NORCO or any of its predecessors.

Page 005 of Reference 10 (HRS) indicates that Brenda Shedd's (home owner that lives adjacent to the refinery) son fell into an oil filled sink hole. The reference states that the source of the sink hole was a pipeline spill from the Falcon Refinery. Recently, representatives of NORCO interviewed Mrs. Shedd and her son about the oil filled sink hole that the boy fell into. During the discussion the location of the former sink hole was shown and it was discovered that the pipeline

that caused the spill was not and had never been associated with the Falcon Refinery. In fact, the current owner of the pipeline is Plains Marketing, which loads and unloads product from a docking facility and transfers the material to and from their facility on Hwy 2725 through the pipeline.

.....

In contrast to the known substantial spill(s) by ARM Refining (now Plains Marketing) into the wetlands, releases into the wetlands from the Falcon site are smaller and were addressed.

A prior operator at the Falcon Refinery, MJP Resources had a crude and hydrostatic test water discharge from a pipeline of <8 barrels (GLO form page 001 of Reference 33 in the HRS) and there was a spill of approximately 20 gallons of crude oil on 4/4/02 on property owned by Offshore Specialty Fabricators (Reference C on the CD provided by the EPA describing spills).

The spill by MJP Resources was excavated and sampled. The spill on Offshore Fabricators property was never proved to be the responsibility of NORCO.

Due to the uncertainty of the remedial effort performed by ARM Refining, NORCO has elected to postpone sampling in the wetlands until additional data are available concerning the ARM and or Plains spill(s). Additional data concerning wetlands issues will be addressed in a subsequent Field Sampling Plan."

EPA's Comments

These paragraphs describing NORCO's rationale for not sampling the wetland areas shall be excluded from the Second Amended Draft FSP. The EPA entered into an agreement for the performance of an RI/FS with only NORCO. As the sole respondent and party to the AOC, NORCO is the sole responsible party bound by the terms of the AOC and is strictly liable under CERCLA. That is, under the terms of the AOC, the EPA has determined that NORCO is responsible for the RI/FS at the Site without proving that NORCO was at fault for the releases or potential releases of hazardous substances, pollutants, or contaminants "at" or "from" the Site. The EPA's process of identifying PRPs is an ongoing process and will not delay the performance of the RI/FS for this Site as directed by the EPA. In the event that other PRPs for the Site are identified, NORCO may "seek contribution from any other person who is liable or potentially liable" in accordance with CERCLA §113(f).

The EPA strongly encourages that NORCO representatives participate in another scoping meeting before NORCO begins the process of revising the deliverables disapproved by the EPA

and before submittal of the Second Amended Draft WP, FSP, and QAPP. This scoping meeting will include a comprehensive discussion of the DQO Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP.

General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), G (Potentially Responsible Party), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

84. Section 6.4.1 - Background Information (Pages 23 and 24; 2nd, 3rd, and 4th Paragraphs)

Amended Draft Field Sampling Plan

The Amended Draft FSP states that:

"To pinpoint the location of the reported sheen representatives of NORCO interviewed Mr. Salinas. During the interview, Mr. Salinas stated that the cause of the sheen was contaminated water that Plains Marketing was pumping from around their storage tanks to the drainage ditch and also to the NORCO North Site.

NORCO has asked the EPA and TCEQ to investigate the unauthorized discharge.

NORCO will agree to install two soil borings near the Salinas' yard; however NORCO does not take responsibility if contamination is discovered."

EPA's Comments

These paragraphs describing NORCO's rationale for not accepting responsibility under this AOC shall be excluded from the Second Amended Draft FSP. The EPA entered into an agreement for the performance of an RI/FS with only NORCO. As the sole respondent and party to the AOC, NORCO is the sole responsible party bound by the terms of the AOC and is strictly liable under CERCLA. That is, under the terms of the AOC, the EPA has determined that NORCO is responsible for the RI/FS at the Site without proving that NORCO was at fault for the releases or potential releases of hazardous substances, pollutants, or contaminants "at" or "from" the Site. The EPA's process of identifying PRPs is an ongoing process and will not delay the performance of the RI/FS for this Site as directed by the EPA. In the event that other PRPs for the Site are identified, NORCO may "seek contribution from any other person who is liable or potentially liable" in accordance with CERCLA §113(f).

The EPA strongly encourages that NORCO representatives participate in another scoping meeting before NORCO begins the process of revising the deliverables disapproved by the EPA and before submittal of the Second Amended Draft WP, FSP, and QAPP. This scoping meeting will include a comprehensive discussion of the DQO Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP.

General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), G (Potentially Responsible Party), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

85. *Section 6.6.1 - AOC 16 Background Information (Page 25, 2nd Paragraph)*

Amended Draft Field Sampling Plan

The Amended Draft FSP states that:

“Because NORCO has not been responsible for the facility in over 20 years and other operators have had releases at the AOC, this potential AOC will not be sampled.”

EPA's Comments

This paragraph describing NORCO's rationale for not sampling the sediments at the historical docking facility shall be excluded from the Second Amended Draft FSP. The EPA entered into an agreement for the performance of an RI/FS with only NORCO. As the sole respondent and party to the AOC, NORCO is the sole responsible party bound by the terms of the AOC and is strictly liable under CERCLA. That is, under the terms of the AOC, the EPA has determined that NORCO is responsible for the RI/FS at the Site without proving that NORCO was at fault for the releases or potential releases of hazardous substances, pollutants, or contaminants “at” or “from” the Site. The EPA's process of identifying PRPs is an ongoing process and will not delay the performance of the RI/FS for this Site as directed by the EPA. In the event that other PRPs for the Site are identified, NORCO may “seek contribution from any other person who is liable or potentially liable” in accordance with CERCLA §113(f).

The EPA strongly encourages that NORCO representatives participate in another scoping meeting before NORCO begins the process of revising the deliverables disapproved by the EPA and before submittal of the Second Amended Draft WP, FSP, and QAPP. This scoping meeting will include a comprehensive discussion of the DQO Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP.

General Comments A (Key Definitions), B (Facility [Site] Boundaries), C (Hazard Ranking System Documentation Record), G (Potentially Responsible Party), H (Superfund Alternative Sites), I (Documentation of Hazardous Substances and Contaminant Releases to the Environment), L (NORCO's and EPA's Responsibilities Under the AOC for a RI/FS), and M (Major Areas of Deficiencies in the Amended Draft Work Plan, Field Sampling Plan, and Quality Assurance Project Plan) provide the EPA's discussions concerning these comments.

86. Section 7.0 - General Sampling Protocols (Page 25, 1st Paragraph)

Amended Draft Field Sampling Plan

The Amended Draft FSP states that:

"The Amended Draft FSP identifies Appendix A (Standard Operating Procedures).

EPA's Comments

The Second Amended Draft FSP shall include the Standard Operating Procedures for NORCO's contractor that will be performing the work required for this RI/FS. Additionally, the Amended Draft FSP shall be revised to include a "Standard Operating Procedure" for "Sediment Sampling." General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

87. Section 8.0 - Documentation (Page 29)

Amended Draft Field Sampling Plan

This section of the Amended Draft FSP describes the documentation procedures for this RI/FS.

EPA's Comments

The Field Operations Records Management System II Lite (FORMS II Lite) shall be used to document the analytical data collected for this Site. FORMS II Lite was developed to support the mission of EPA and its contractors who visit hazardous waste sites to take samples of soil, air, water or other matrices. It is a versatile, stand-alone Windows®-based application that automates many of the procedures that must be followed to assure quality data from the analyses conducted on the samples. FORMS II Lite software has evolved from Superfund project requirements. This software can be downloaded from the internet at:

"<http://dyncsdao1.fedcsc.com/itg/forms2lite/index.html>"

General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

Deliverable-Specific Comments
Amended Draft Remedial Investigation and Feasibility Study
Quality Assurance Project Plan

The following "Deliverable-Specific Comments" pertain to the EPA's comments on the Amended Draft QAPP required pursuant to the AOC.

88. Q-Trak #

The Q-Trak #, once assigned by the EPA's quality assurance staff, will be provided to NORCO by the EPA's RPM for the Site. This number shall be included in the Title Page, and subsequent pages as appropriate, of the Second Amended Draft QAPP.

89. Amended Draft Quality Assurance Project Plan (Pages 1 through 98)

Amended Draft Quality Assurance Project Plan

The Amended Draft QAPP describes the planning, implementation, and assessment procedures of, and how specific QA and QC activities will be applied during the RI/FS for this Site.

EPA's Comments

The Amended Draft QAPP follows the format recommended in the EPA's QAPP requirements and guidance documents, respectively, entitled; "EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5" (EPA/240/B-01/003, March 2001); and "Guidance for Quality Assurance Project Plans, EPA QA/G-5" (EPA/240/R-02/009, December 2002). These documents provide guidance on the required format and content for the QAPP for this project. Paragraph 21 of the RI/FS SOW specifically requires the use of the EPA's QAPP requirements document, which references the QAPP guidance companion document, for the QAPP's format and the required content. The content of the Amended Draft QAPP shall be revised based on the outcome of the recommended scoping meeting.

The EPA is disapproving the Amended Draft QAPP since it does not meet the requirements for a well developed plan that can be used to support this RI/FS and the risk assessments for this Site. An adequate QAPP (and FSP) can be prepared after a comprehensive discussion of the DQO Process and the involvement of the entire project team. The DQO Process is not a unilateral process which represents the findings of only one party (i.e., the PRP), but an iterative team approach process that requires input from the entire project team which includes the EPA, State and Federal Natural Resource Trustees, and NORCO. Therefore, the EPA strongly encourages that NORCO representatives participate in another scoping meeting before NORCO begins the process of revising the Second Amended Draft WP, FSP, and QAPP. This scoping meeting will include a comprehensive discussion of the DQO Process which NORCO must incorporate into the development of the Second Amended Draft WP, FSP, and QAPP.

The MDI Final QAPP, included as Attachment B (Many Diversified Interests, Inc. Superfund Site; Houston, Texas; Field Sampling Plan and Quality Assurance Project Plan [on compact disk]), is provided as a recent example of a deliverable that has been approved by the EPA. This deliverable was prepared by the EPA's contractor along with technical direction from the MDI Site's RPMs. The Amended Draft QAPP shall be revised to include similar content. Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. Each of the General Comments provide the EPA's discussions concerning these comments.

90. Section A5.1 - Task Organization (Page 11)

Amended Draft Quality Assurance Project Plan

The Amended Draft QAPP lists the individuals and organizations involved with the project.

EPA's Comments

The Amended Draft QAPP shall be revised to include the EPA's Remedial Project Manager as the primary decision-maker for the RI/FS activities conducted under the AOC. General Comment J (Preparation of the Proposed Plan and Record of Decision) provides the EPA's discussions concerning these comments.

91. Section A6.1 - Problem Definition (Pages 14 and 15)

Amended Draft Quality Assurance Project Plan

The Amended Draft QAPP discusses the number of samples and the matrices to be sampled.

EPA's Comments

NORCO shall continue discussions with the EPA concerning the number of samples, the matrices to be sampled, the locations of these samples, and the geographical areas to be sampled during the recommended scoping meeting. Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. Each of the General Comments provide the EPA's discussions concerning these comments.

92. Section A8.1.7.2 - Develop General Data Collection Design Alternatives and Sample Size that Satisfies the DQO (Pages 36 through 45)

Amended Draft Quality Assurance Project Plan

The Amended Draft QAPP discusses the distribution of arsenic concentrations, obtained from the HRS Documentation Record, which were used to develop the sample size for the Site.

EPA's Comments

The distribution of the chemicals of potential concern (COPCs), or the risk drivers for the Site, have not been determined. This information will be obtained through phased sampling efforts. The distribution of arsenic at the Site, obtained from the limited HRS data, may or may not represent the distributions of the COPCs for the Site. Some prior knowledge of COPC distributions is required before performing statistical calculations in the determination of the acceptable numbers of samples required to meet the objectives of the RI/FS. NORCO shall

continue discussions with the EPA concerning the number of samples, the matrices to be sampled, the locations of these samples, and the geographical areas to be sampled during the recommended scoping meeting. Similar comments were previously provided in the EPA's comments concerning the Draft WP dated September 7, 2004. Each of the General Comments provide the EPA's discussions concerning these comments.

ATTACHMENTS
(On Compact Disk)

Attachment A

Documentation of Hazardous Substances and Contaminant Releases to the Environment

Attachment B

Many Diversified Interests Inc. Superfund Site; Houston, Texas;
Field Sampling Plan and Quality Assurance Project Plan

Attachment C

Example Conceptual Site Models (Flow Diagram and Schematic Formats)

Attachment D

Example Tables of Sample Quantitation Limits and Screening Levels

Attachment E

Example Sampling Design Summary Tables

Attachment F

Example Judgmental and Random Grid Sampling Designs

Attachment G

Example "Visual Sample Plan" Probabilistic Sampling Design

Attachment H

Addendum to the EPA's 2/03/05 Comments on NORCO's 9/07/04 Draft Deliverables